BEFORE THE
U.S. DEPARTMENT OF ENERGY
WASHINGTON, D.C. 20585

In the Matter of	)	
	)	
Implementing the National Broadband Plan by Studying the Communications Requirements of Electric Utilities to Inform Federal Smart Grid Policy	)	NBP RFI: Communications Requirements

REPLY COMMENTS

OF SOUTHERN COMPANY SERVICES, INC.

Southern Company Services, Inc. ("Southern"), on behalf of itself and its operating affiliates, hereby submits its reply comments in response to the Department of Energy's ("DOE's") Request for Information ("RFI"), released May 5, 2010, about current and projected communications requirements of electric utilities.[1] Southern appreciates the opportunity to provide DOE with additional information and to respond to the initial comments submitted in this proceeding. As discussed more fully below, Southern believes that privately-owned and operated systems will continue to be needed for command and control operations. In addition, Southern is not opposed to using some commercial services for non-mission critical applications as long as reliability, cost, engineering, and other functionality issues are adequately addressed.

[1] 75 Fed. Reg. 26206, 26207 (published May 11, 2010).

I. Network Reliability and Survivability

After reviewing the comments submitted in this proceeding, Southern remains concerned that commercial networks are not sufficiently reliable to handle the demands of mission critical Smart Grid applications (*e.g.*, command and control operations), especially during disasters and other emergencies. For example, Tacoma Public Utilities, Florida Power & Light, and other utilities provide numerous examples detailing the operational failures of commercial networks including those associated with the 2004/2005 Florida hurricanes, tests involving commercial "push to talk" service, the 2001 Nisqually earthquake, and Hurricane Katrina.[2] Indeed, CTIA mentions the claim that utility network were operational following Hurricane Katrina when some commercial networks were not.[3]

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[2] *See* Tacoma Public Utilities Comments at 5 and Florida Power & Light Comments at 3. *See also* DTE Energy Company Comments at 7 ("[C]ellular networks experience crippling congestion and failed equipment during severe weather events, just the time when we need field communications the most."); East Central Energy-Minnesota Comments at 5 ("Commercial networks fail due to lack of generator back up and high call volume during disasters. This has been the case from large disasters such as 9/11 and hurricane Katrina to smaller disasters such as flooding in the Red River Valley in Minnesota and North Dakota and during many local storms."); Great River Energy Comments at 9 ("GRE's service area is in a tornado prone area and our private communication systems have been used for power restoration during disasters when commercial networks failed."); National Rural Electric Cooperative Association Comments at 12 ("However, NRECA does not expect Cooperatives to switch from their private land mobile radio systems to commercial carrier services given the dual challenges of coverage gaps and a poor track record of reliability during major events and storms."); and San Diego Gas & Electric Comments at 21 ("SDG&E faces two primary natural disasters: earthquakes and wildfires. Previous experience shows that commercial networks stop operating during these events, precisely at the moment they are most critical to the restoration of power operations.").

[3] *See* CTIA Comments at fn. 50. Commercial operators generally seem hesitant to provide much information about the operational failures of their networks. Indeed, certain commercial operators seem to be taking a similar approach in the currently-pending FCC proceeding where the FCC is asking whether to expand outage reporting requirements to broadband and VoIP. *Public Safety and Homeland Security Bureau Seeks Comment on Whether the Commission's Rules Concerning Disruptions to Communications Should Apply to Broadband Internet Service Providers and Interconnected Voice Over Internet Protocol Service Providers*, Public Notice, ET Docket No. 04-35; WC Docket No. 05-271; GN Docket Nos. 09-47, 09-51, 09-137; DA 10-1245 (July 2, 2010). Commercial operators generally oppose these requirements on broadband and VoIP. In contrast, state utility commissions believe that the reporting rules should apply to broadband. The New York Public Service Commission ("New York PSC") asserted in its filing that "interruptions to these applications may soon be just as critical to first responders as interruptions to the network infrastructures themselves." *See* New York PSC Comments at 1.

Despite these operational failures, commercial operators still speak favorably about the reliability of their commercial networks.[4] However, Southern is concerned that there is not a lot of evidence presented to support these claims. Indeed, commercial operators present very few actual examples to show how they maintained network reliability during actual disasters and other emergencies. The suitability of commercial services to meet utility communications needs should not focus exclusively on carriers' generalized statistics about reliability, but rather on how they stand up during or immediately following major disasters; *i.e.*, have these networks been designed for the levels of survivability that utilities need? If commercial power is disrupted following a storm, will the commercial telecommunications networks nevertheless remain functioning so that utility crews or smart grid devices can communicate effectively in order to support prompt restoration of electric service?[5] While commercial telecommunications networks boast of a certain level of availability during "blue sky" conditions, they are not willing to make the investment necessary to assure power utilities that continuous communications service will be available for them during and following a widespread disaster. Perhaps no other sector of the economy has a need for continuous availability of communications over an extremely broad geographic area in the event of a hurricane, earthquake or other disaster. Due to the interconnected nature of the power grid and the safety issues associated with the transmission and distribution of electric power, restoration of electric service requires very close coordination and communication among facilities and crews that could be widely dispersed throughout a utility's service area.

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[4] *See, e.g.*, CTIA Comments at 10 (carriers "take very seriously their responsibility to provide reliable and effective communications during times of emergency and heightened demand") and Verizon Comments at 10 ("commercial broadband networks are also sufficiently robust and reliable").

[5] See Section II, below, for comments related to interdependence between commercial telecommunications networks and commercial power systems.

One of the nation's largest carriers recently recommended to the FCC that in addition to encouraging carriers to employ best practices for network survivability, the FCC should ensure that customers – both residential and commercial – take steps to ensure continuity of communications:

> In addition to focusing on establishing best practices among providers, the Commission has a role to play in ensuring that broadband customers take appropriate steps to enhance their ability to communicate in the event of network congestion or outage. For example, there are a wide range of activities that end users can take to prepare for and help mitigate the effect of a network-affecting event, ranging from limiting broadband use to off-peak time periods to obtaining information from alternative sources, such as broadcast television or radio. In the enterprise space, business, too, should take steps to establish alternative means of communications; purchase diverse services for mission critical sites or applications; consider maintaining duplicate 'hot sites' from which key data and applications can be accessed in the event of an outage at the primary site; and other such measures.[6]

These recommendations indicate that even the carriers themselves do not believe they can ensure the level of survivability that business customers, in particular, may need for mission-critical communications.

As discussed in Southern's Comments, utilities have far more demanding needs for reliability and survivability than those generally faced by commercial operators whose typical customers tolerate lower standards. Southern and other utilities typically design key communications systems to a reliability standard of 99.999 percent. The "best effort" standard of commercial networks, where dropped calls, dead zones, service interruptions, and other service outages are often tolerated by network operators and accepted by subscribers, is inadequate to meet the reliability needs of utilities especially with respect to mission critical applications.[7] Even for less critical Smart Grid applications, network reliability is an important utility concern.

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[6] Comments of Verizon and Verizon Wireless in PS Docket No. 10-92, filed June 25, 2010, at 8.

[7] *See, e.g.*, Alcatel-Lucent Comments at 3.

One way to help to improve reliability is to have adequate back-up power in the event of a power outage. If power is interrupted and there is no back-up power, commercial communications system operations will be crippled. This, in turn, will slow down progress on power restoration. To address this significant problem, some utilities believe that commercial operators must make their cell sites AC power-independent.[8] While some commercial operators imply that they have adequate back-up, Southern is unsure if adequate steps actually have been taken by commercial operators.

For example, one carrier states that over 99% of its wireless sites "are ***engineered with*** reserve batteries and/or permanent generators," and that its switching centers "are ***typically equipped*** with redundant permanent generators with local fuel supply to allow greater than 4 days of run time."[9] However, it is unclear whether all of this carrier's sites are actually operational with back-up, or whether they are only "engineered with" that capability and have not yet been "equipped" with such back-up. In addition, Southern is not sure what is meant by "typically equipped."[10] Utilities need assurances that all centers through which their mission critical communications are routed have sufficient back-up power. In fact, all of Southern's sites have batteries with an absolute minimum capacity of 8 hours, and every site critical to electric operation has a generator with on-site fuel capability.

Southern is not surprised that commercial operations have less stringent back-up capabilities given the economics involved. There is a cost to develop, implement, and maintain these back-up capabilities. Often, it does not make business sense for commercial operators to

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[8] *See, e.g.*, DTE Energy Comments at 8.

[9] AT&T Comments at 11 (emphasis added). *See also* Verizon Comments at 11 ("Verizon protects its cell site operations in many ways, including redundancy in the equipment, automatic power back-up systems …").

[10] Part of the reason that Southern questions commercial carrier claims regarding back-up capabilities is because of their vigorous opposition to the FCC's attempt to require such capabilities.

incur these costs. However, for Smart Grid applications, such back-up capabilities are essential. In this regard, a task force of the National Security Telecommunications Advisory Committee's ("NSTAC's") succinctly stated: "These backup capabilities, which are not economical or feasible for commercial networks, are required by utilities to ensure reliable communications in emergency."[11]

It should also be noted that the battery back-up capabilities of commercial networks might not last as long as advertised because of increased traffic following an event.[12] Once a disaster or emergency event occurs, there tends to be a spike in traffic volume on commercial communications networks. Thus, the back-up protections of commercial operators are likely to be even more limited which further affects the reliability of commercial networks. Although private networks would experience a surge in traffic as well, the potential universe of users attempting to access the network is proportionately much smaller, with usage still limited to personnel working on restoration of the power system.

Some commercial carriers suggest that utilities might be able to avail themselves of government programs intended to provide priority communications services to activities that support National Security and Emergency Preparedness, such as the Wireless Priority Service (WPS), the Telecommunications Service Priority System (TSP), or the Government Emergency Telecommunications Service (GETS).[13] However, even if all the communications services on which utilities rely would qualify for these programs, they are not a substitute for a privately-owned and –operated system. Most importantly, these services are only as good as the networks

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[11] *See* Southern Comments at 27-28 (citing to a report by the NSTAC's Telecommunications and Electric Power Interdependency Task Force).

[12] *See* Sensus USA Comment at 3 (filed June 28, 2010) in FCC PS Docket No. 10-92, Notice of Inquiry In the Matter of Effects on Broadband Communication Networks of Damage to or Failure of Network Equipment or Severe Overload (released April 21, 2010).

[13] AT&T comments at 16; Verizon comments at 12.

on which they are provided. If the networks are down, a user of WPS or GETS does not have any service, let alone a priority. TSP can be of some benefit in securing priority for restoration of service, but it is still more akin to a "best efforts" prioritization and not a guarantee that any particular circuit will be restored ahead of others or within a certain timeframe. WPS does not offer preemptive service; that is, a WPS user may be pushed to the head of the queue for an available channel, but will not preempt calls that are in progress. WPS and GETS only provide priority for outbound calls from the user's wireless device to the network; inbound calls to the wireless device do not receive any special treatment. WPS and GETS only apply to voice calls, do not provide any priority to text or data traffic, and will not be supported if the user is roaming on another carrier's network that does not support these features. Thus, although these services have some benefit, they are lacking in most of the key attributes that are needed to support mission-critical communications and are therefore not a substitute for a private communications system.

Similarly, a managed virtual private network (VPN), as suggested by one carrier, suffers from many of the same limitations.[14] A VPN is only as reliable as the underlying internet connection. If there is a Denial of Service (DoS) attack or any disruption to the internet service, the VPN tunnel will likely be unusable as well. Thus, the performance and reliability of the VPN connection is largely out of control of both the carrier and the utility. For all of these reasons, Southern continues to need the opportunity to own and control private communications facilities not dependent on commercial telecommunications carriers.

[14] See comments of AT&T at 15.

II. Interdependence of Critical Infrastructures

Interdependence between commercial power systems and commercial telecommunication networks poses significant security and safety risks. Commercial telecommunications networks are currently heavily dependent on commercial power systems. As discussed herein, if power is interrupted, commercial communications systems will also be interrupted because of their heavy reliance on commercial power and limited back-up capabilities.[15] If electric utilities were also compelled to become totally dependent on commercial networks for their mission-critical needs, a vicious cycle of interdependency would be created where the disruption of a single network could impede the provision of both communications services and electric power.[16] Having commercial communications networks supplying all of the utility sector's communications needs would raise serious public safety and welfare concerns. As DOE surveys the communications options available to electric utilities, Southern strongly recommends that DOE consider whether it would be good public policy to have total interdependence between commercial electric power systems and commercial telecommunications networks, or whether the country's interests in National Security and Emergency Preparedness are better served by allowing these critical infrastructure industries to have the ability to independently respond to emergencies and restore essential service to the public.

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[15] *See* Section I herein. To this point, CTIA states that the Hurricane Katrina panel noted that commercial wireless networks were unable to receive priority power restoration from utilities. *See* CTIA Comments at fn. 50. Without power ("priority" or not), communications networks cannot operate.

[16] *See* Alcatel-Lucent Comments at 3 ("Simply put, today if a commercial wireless provider must wait until the utility has restored its power in order to restore service to the utility to reconnect the automated controls that operate its grid, then that is an irresolvable paradox and no one will be adequately served by the co-dependent relationship.").

III. Cost Issues

A commercial operator's decision to deploy a network is usually driven by profit-making motives which are not necessarily consistent with utilities' Smart Grid coverage, safety, security, and reliability needs. With respect to network coverage, utilities and commercial operators have different business models and different coverage objectives. On the one hand, electric utilities have a "universal service" mandate and must serve their entire service area to comply with applicable requirements. On the other hand, commercial operators are incentivized to serve densely populated areas to maximize revenues and minimize costs. Commercial wireless providers are exempt from state and local regulation,[17] and must only demonstrate to the FCC, at typically 3 or 5 year intervals or at license renewal, that they are providing "substantial service" within their license areas.[18]

After reviewing the initial Comments on the RFI, Southern remains concerned that commercial operators' lack of coverage in certain geographic areas will be a barrier to utilizing commercial services for Smart Grid applications. While some commercial operators assert that there are different service options for their networks' coverage to expand to meet Smart Grid needs (*e.g.*, 4G LTE, special wireline construction requests, etc.)[19], it is unclear how much weight should be given to these assurances. The fact is, some carriers have not yet expanded

[17] 47 U.S.C. §332(c)(3).

[18] The FCC rules also place a premium on serving densely populated areas and not necessarily broad geographic coverage. The "substantial service" standard is generally defined by the FCC as "service that is sound, favorable, and substantially above a level of mediocre service that would barely warrant renewal." See, *e.g.*, 47 C.F.R. §§24.103 and 27.14(a) (2009). Utilities require service that is significantly greater than "substantially above a level of mediocre service."

[19] See AT&T Comments at 14 ("Within a commercial service provider's operating territory, it is always an option for the customer seeking wireline service to contract with the commercial provider to undertake special construction to deliver service in an area previously beyond the reach of the current network") and Verizon Comments at 10 ("Verizon's 4G LTE network will be widely available in the near future. In those limited areas that lack broadband coverage, commercial providers are able to develop or deploy solutions to extend higher capacity services, including satellite or wireless mesh alternatives").

their wireless and broadband networks into many rural and sparsely populated areas after all of these years. In addition, neither of the two largest wireless carriers applied for broadband stimulus grant funding from the Department of Commerce's National Telecommunications and Information Administration ("NTIA") whereby the federal government would have paid a portion of the costs to deploy broadband networks in underserved and unserved areas.[20] While a number of factors likely affected these carriers' decisions not to apply for NTIA stimulus funding, the economics (even with government funding), apparently, did not justify seeking funds for such build-outs.

Southern is concerned that commercial operators may forego network expansion (and, thus, limit network coverage) because such expansion is not profitable. Indeed, the American Public Power Association states in its Comments that "there is no evidence that carriers intend to deploy 4G networks beyond their current 3G areas."[21] In addition, it has been reported in the press that Verizon has cut back deployment plans of its FiOS service,[22] which Verizon states in its Comments reflects "the deployment of next-generation capabilities necessary to keep pace with the market."[23] While there may be other factors impacting its decision, it seems reasonable to believe that Verizon's decision to cut back its deployment of FiOS was driven by its own

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[20] According to www.broadbandusa.gov, "The American Recovery and Reinvestment Act provides [NTIA] and the U.S. Department of Agriculture's Rural Utilities Service ("RUS") with $7.2 billion to expand access to broadband services in the United States. Of those funds, the Act provided $4.7 billion to NTIA to support the deployment of broadband infrastructure, enhance and expand public computer centers, encourage sustainable adoption of broadband service, and develop and maintain a nationwide public map of broadband service capability and availability. NTIA will make all grant awards by September 30, 2010."

[21] American Public Power Association Comments at 18.

[22] *See, e.g.,* Broadband Edging Out Fiber for Internet Service, http://www.informationweek.com/news/windows/operatingsystems/showArticle.jhtml?articleID=225701400, June 24, 2010 ("Verizon killed its plans to deploy FiOS fiber home service due to the lack of subscriber interest. Instead, the carrier is focusing on its goal of reaching a 40% FiOS TV penetration rate among homes that already have access.") (last checked August 4, 2010) and "Say Goodbye to Verizon FiOS and Hello to Frontier Communications", http:///www.digitaltrends.com/computing/say-goodbye-to-verizon-fios-and-hello-to-frontier-communications/, July 1, 2010 (Frontier completed its acquisition of Verizon FiOS business in 14 states) (last checked August 4, 2010).

profitability analysis. While Southern understands that this may be a reasonable business decision, the fact is that the coverage of commercial networks is directly impacted by revenue and cost-related concerns that are not necessarily compatible with utilities' Smart Grid coverage needs.

Another network cost-related issue raised by a few commenters involves the rate making process pursuant to which capital expenditures of utilities may be incorporated into the rates charged to ratepayers. A number of commenters misstate and/or misinterpret the impact of the ratemaking process on a utility's decision to construct and operate a private communications network.[24] To be clear, utilities are not incentivized under the ratemaking process to construct and operate their own private communications network. The nature of rate-of-return regulation involves accountability to state public utility commissions (PUCs) as to the cost effectiveness of a project and compliance with stringent safety, security, and reliability mandates imposed on utilities.[25] Indeed, the ratemaking process adds another level of review (and regulatory oversight), whereby state PUCs strive to ensure that utilities make prudent investments and employ cost-effective technologies.[26] Thus, any cost that is ultimately incorporated into the utilities' rates will have been carefully vetted. In contrast, commercial wireless carriers do not face this level of scrutiny when they decide to construct their networks because commercial wireless carriers are not rate-regulated.

In any event, there still are significant cost disparities between self-provisioned communications services and purchasing service from a carrier. For example, Southern recently

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[23] Verizon Comments at 3.

[24] *See, e.g.*, Ambient Comments at ¶ 3 and Honeywell Comments at ¶ 7.

[25] *See* NERC Reliability Standards at http://www.nerc.com/page.php?cid=2%7C20. *See* also NERC Critical Infrastructure Protection ("CIP") Standards at http://www.nerc.com/page.php?cid=2%7C20.

performed a preliminary financial analysis on a "buy" versus "build" scenario involving two-way wireless data service to 2,000 end points. Southern calculated the capital costs and operational expenses to install 100 master stations to serve the 2,000 endpoints (approximately 20 points per master station), plus the cost of leased backhaul from the master stations. Southern then performed a net present value comparison of this private system solution against pricing proposals for fixed wireless data service from national wireless carriers plus the additional capital costs Southern would have to incur for frame relay access devices (FRADs) to integrate the commercial wireless solution with Southern's network. The net present value comparison between the two solutions indicated that, over a 10 year period, the carrier-provided solution would cost Southern - and its electric customers – more than 55% more than the private system owned and operated by Southern. This is a very significant cost difference and does not involve any consideration of whether the private system costs would be included in the ratebase.

IV. State Regulation

CTIA cites to orders from the New York PSC and California PUC to support the proposition that utilities should consider using commercial networks for Smart Grid applications as a means of promoting cost-effectiveness in a project. Southern agrees that utilities should consider commercial networks for some (but not all) Smart Grid applications as long as certain requirements are satisfied. Southern also agrees that the cost-effectiveness of network deployment also needs to be considered. However, state PUCs also recognize that network reliability, security, and coverage are of critical importance and cannot be sacrificed in the interest of pure cost-savings.

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[26] *See, e.g.*, New York Public Service Commission Order Authorizing Recovery of Costs Associated with Stimulus Projects, July 27, 2009 ("NY PSC Order") cited in the CTIA Comments at 13.

For example, the NY PSC Order referenced by CTIA in its Comments unequivocally states that safety and reliability are critical elements in investment decisions. According to the NY PSC Order, "[f]irst and foremost, we are keenly interested in ensuring that our expected investments in the Smart Grid will not lead to a decrease in the safety and reliability of the transmission and distribution system."[27] Significantly, the NY PSC Order (which focuses on advanced metering infrastructure (AMI)) does not direct utilities to use commercial networks for any portion of their Smart Grid needs. In this regard, one of the major carriers had submitted written comments to the New York PSC requesting that the New York PSC not approve deployments that create new broadband networks.[28] The New York PSC did not adopt this approach. Instead, the New York PSC encouraged (but did not require) utilities to work with commercial operators to leverage their available infrastructure.[29]

V. Utility Experience and Expertise

Commercial operators commenting in this proceeding assert that they have the requisite experience and technical capabilities to facilitate Smart Grid implementation and claim that "communications network management" is outside of utilities' expertise.[30] This is simply inaccurate. Utilities have decades of experience and expertise operating customized private

[27] *See* NY PSC Order at 39.

[28] *See Id.* at 40-41.

[29] We note that the New York PSC recently initiated a broader inquiry into Smart Grid that goes beyond the AMI issues that were the focus of the NY PSC Order. *See* Order Instituting Inquiry into Smart Grid, Case 10-E-0285, Proceeding on Motion of the Commission to Consider Regulatory Policies Regarding Smart Grid Systems and the Modernization of the Electric Grid, Case 09-M-0074, In the Matter of Advanced Metering Infrastructure (Issued and Effective July 16, 2010). In its new inquiry, the New York PSC is asking many of the same types of questions that DOE has raised in the RFI.

[30] *See, e.g.*, NCTA Comment at 6, Verizon Comments at 2, and AT&T Comments at 7.

communications systems and utilities understand, firsthand, how those communications systems support their electric power operations.

Southern's core business is to provide electric service to the public. In providing this service, Southern is in the best position to understand its communications needs and is best able to determine how those needs can support expanding generation capacity, upgrading IT infrastructure, incorporating distributed generation capabilities, supporting electric vehicles and protecting against cyber attacks. Southern is continually evaluating its evolving communications needs and is already addressing these issues with its existing networks. SouthernLINC, for example, works on a continuous basis with its affiliated power generation and distribution affiliates to assure availability of mobile communications and SCADA for key facilities, and it participates in both planning and crisis response drills with its affiliates to ensure that SouthernLINC's response to crisis situations is on concert with the energy affiliates' operations and recovery plans. Among many other steps taken to harden the SouthernLINC system, SouthernLINC has used a protected ring topology for backhaul, has relocated its switching offices from coastal areas to a hardened and secure facility much farther inland, and has installed significant redundant facilities to improve availability during and following major storms – when its system is needed most by the utility and public safety users. Through many decades of experience in provisioning communications facilities for internal utility communications needs, Southern and other utilities are in the best positions to assess whether the use of commercial networks for a particular Smart Grid application is cost-effective, satisfies functionality requirements, and is otherwise appropriate.

VI. Network Interoperability

Interoperability will be important to the performance of certain components of the Smart Grid. Diverse systems will need to work together to enable integration, effective cooperation, and two-way communications. However, Southern disagrees with the suggestion that it will be difficult for private communications networks to be highly adaptable to all of the diverse Smart Grid needs and to achieve interoperability.[31] Utilities have intercommunicated with each other for many decades on the status of key components of the interconnected power grid. Moreover, these communications networks are increasingly IP-based, which further facilitates intercommunications and interoperability. In addition, interoperability standards for Smart Grid applications are currently being developed by National Institute of Standards and Technology. Thus, any issues about interoperability are already being addressed.[32]

VII. Spectrum Needs

For all of the reasons discussed above, it is imperative that there be radio spectrum dedicated to private communications networks for Smart Grid applications. Currently available spectrum will be inadequate to meet Smart Grid demands. In this regard, Southern agrees with Alcatel-Lucent's observations about certain vendors who have mistakenly advised the Federal Communications Commission that the utility sector does not require additional spectrum for

[31] *See* AT&T Comments at 8.

[32] One notable exception to interoperability is with respect to private land mobile communications systems. Because the FCC has not allocated any spectrum dedicated to utility land mobile use, and because utilities often have need to send crews to assist with power restoration following storms, utilities are often faced with difficulties intercommunicating to facilitate repairs because they operate in different frequency bands or communications protocols. While work-arounds are possible (see, *e.g.*, http://connectedplanetonline.com/3g4g/news/harris-bridging-public-private-push-to-talk/) , reliance on public networks is not an option because they are frequently out of service in the storm-impacted area. This is an issue where greater attention from the FCC in terms of spectrum allocations for private systems would be welcomed.

Smart Grid deployment.[33] Southern is hopeful that the comments submitted by utilities (and others) in this proceeding will provide DOE and these vendors with a better understanding of the mission critical Smart Grid needs of utilities which require dedicated spectrum.

Finally, contrary to the views of CTIA,[34] Southern believes that spectrum needs should not be based solely on economic supply and demand considerations. Economic forces alone do not properly account for the safety and public interest value of Smart Grid uses. In addition, CTIA's position puts utilities, public safety organizations, and other non-commercial entities at an unfair and inequitable disadvantage. This sentiment is echoed in the Congressional Research Service report entitled, *Spectrum Policy in the Age of Broadband*: *Issues for Congress*. According to the report, "[P]ublic utilities, municipal cooperatives, commuter railroads, and other public or quasi-public entities face a variety of legal, regulatory, and structural constraints that limit or prohibit their ability to participate in an auction or buy spectrum licenses."[35] DOE should recognize that the spectrum allocation model endorsed by commercial operators only benefits commercial interests and is not well-suited to putting spectrum in the hands of utilities and other critical infrastructure industries that use spectrum as a critical operational tool and not simply a revenue-generator for the licensee. In contrast, utilities' request for dedicated spectrum will benefit utilities and, more importantly, it will benefit the public through improved public safety and other benefits.

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[33] *See Id.* at 16.

[34] *See* CTIA Comments at 15 (spectrum should be made available via auctions "to ensure that it is put to the highest and best use with said users determined by market forces").

[35] *Spectrum Policy in the Age of Broadband: Issues for Congress*, Congressional Research Service, R40674 at 14 (July 13, 2009).

CONCLUSION

Southern anticipates the applications that ultimately comprise Smart Grid will rely on a careful mix of privately-owned and operated systems for command and control operations and use of commercial services where adequately justified on engineering, reliability and cost issues, among others. Southern looks forward to working with DOE and others in the industry to address Smart Grid issues.

Respectfully submitted,

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