

Commission should not be “putting all of this emphasis on broadband for the sake of broadband”; instead the goal should be to promote broadband as “the great enabler” for achieving the national goals of the Recovery Act as a whole.⁴ This is consistent with Congress’s intent.⁵

One of the most important ways that broadband can further the national objectives of the Recovery Act is by promoting energy independence and efficiency. Many of the initial comments in this proceeding underline the importance of broadband to support smart grid as a means to promote energy independence and efficiency. Several comments also support the need for additional spectrum to enable many smart grid applications. These comments are consistent with UTC and EEI’s comments, which call for an allocation of at least 30 MHz of dedicated spectrum for smart grid and other critical infrastructure industry⁶ purposes.

The Commission should also look to utilities as facilitators of broadband. As UTC’s comments described, utilities facilitate broadband deployment through wholesale collocation and retail services -- although they are not major competitors in the broadband market. Other comments confirm that cooperative electric utilities are providing broadband services to rural unserved and underserved parts of the country. Similarly, other comments support the provision of broadband by municipalities and municipal utilities to promote the larger cause of broadband access throughout America.

⁴ Bench Remarks of Commissioner Michael J. Copps on Presentation of National Broadband Process, FCC Open Meeting, Washington, DC (July 2, 2009).

⁵ See ARRA Section 6001(k)(2)(D), directing the FCC to include as part of the national broadband plan “a plan for use of broadband infrastructure and services in advancing consumer welfare, civic participation, public safety and homeland security, community development, health care delivery, energy independence and efficiency, education, worker training, private sector investment, entrepreneurial activity, job creation and economic growth, and other national purposes.”

⁶ UTC uses this term as defined by the FCC; see 47 C.F.R. § 90.7, *Critical Infrastructure Industries*.

Finally, other comments urge the Commission to promote partnerships or other arrangements between broadband providers and utilities that would help reduce the impediments posed by backhaul issues. These comments underline the important role that utilities can and do play in support of the Commission's broadband policy goals.

As explained more fully in joint reply comments filed by UTC and EEI,⁷ the Commission must not compromise the safe operation of critical infrastructure for the sake of broadband, however.⁸ Many utilities filed comments in this proceeding to emphasize that pole attachments are *not* an impediment to broadband, and to suggest policies to encourage a partnership in pole attachments that promotes *both* broadband and reliable critical services. This partnership would be based on the mutual dependence of utilities and communications attachers on the integrity of underlying critical infrastructure that delivers both electric and communications services to the public at large. The Commission can encourage such a partnership by eliminating rate subsidies and discouraging attachers from making unauthorized and unsafe attachments. This will help restore balance to its pole attachment regulations and will promote the integrity of critical infrastructure -- and in turn, the reliability of the essential services that are delivered over them.

The Commission should reject comments on the record that would undermine critical infrastructure by perpetuating or increasing rate subsidies and by imposing a laundry list of additional mandatory access requirements. Specifically, the Commission

⁷ See Reply Comments of Utilities Telecom Council and Edison Electric Institute (filed July 21, 2009), which UTC incorporates by reference herein. As part of its reply comments *infra* UTC addresses in general the points made in its joint filing with EEI. In addition, UTC addresses comments urging the FCC to expand pole attachments to apply to cooperative utilities.

⁸ Comments of Southern Company Services, Inc. at 18 ("Congress, the Department of Energy, and state governments and agencies have repeatedly made clear that the safety and reliability of the electric power grid are top priorities, and these priorities must not be compromised.")

should not adopt the cable rate for broadband attachments; and it should not adopt mandatory deadlines for make ready or presumptions with regard to pole top access or the NESC. Nor should it further expand the scope of pole attachment regulations to apply to transmission facilities or to include broadband service providers that are not authorized cable television operators or telecommunications service providers.

I. The Commission Should Support an Allocation of At Least 30 MHz of Dedicated Spectrum to Promote Energy Independence and Efficiency.

In order to enable smart grid applications to promote energy independence and efficiency, UTC urges the Commission to support an allocation of at least 30 MHz of dedicated spectrum for utility and other CII purposes. As UTC explained more fully in its initial comments, this will enable smart grid applications by providing spectrum that is vitally needed for the private internal communications networks that already support the safe, reliable, efficient and secure delivery of essential services to the public at large, and that will require substantial expansion for smart grid applications.

Comments on the record support the need for additional spectrum to support utilities and other critical infrastructure industries. Southern Company urged the Commission to “consider making additional spectrum available for utilities and other critical infrastructure industries,” and it stated that wireless communications is a “major component of a smart grid system.”⁹ Meanwhile the American Petroleum Institute stated that the oil and natural gas industry is in the midst of improving its operations around broadband IP-enabled technology, similar to what electric utilities are doing with smart grid applications,” and it called for an “exclusive broadband critical infrastructure

⁹ Comments of Southern Company Services, Inc. at ii, and 12-13.

spectrum allocation” to support their private internal communications needs.¹⁰ Cisco also recognized that the prospects for real savings [from smart grid] will increase broadband demand by utilities ...” and it called on the Commission to take an active role in promoting the integration of communications offerings in areas such as energy, “which will be crucial to demand stimulation in the coming years.”¹¹ Likewise, Motorola stated that “broadband can help to improve efficiencies in energy production, distribution and consumption,” but that in order to realize these efficiencies the Commission must “ensure sufficient spectrum for Smart Grid uses.”¹²

Smart grid places additional demands on utility communications networks, which are already under significant spectrum constraints. Smart grid will require private wireless spectrum in order to meet reliability requirements and to lower costs so that smart grid can be deployed across an entire electric grid.¹³ However, “the spectrum bands currently relied on for critical utility and CII operations are increasingly congested and scarce, and the technical and operational rules for some of these bands render them inadequate for current and future utility sector needs.”¹⁴ The American Petroleum Institute concurs that “there is an acute shortage of spectrum allocated for oil and gas

¹⁰ Comments of the American Petroleum Institute at i, 3, 6-7.

¹¹ Comments of Cisco Systems, Inc. at 27-28.

¹² Comments of Motorola at 3. See also Comments of Motorola at 32 (stating “More and more of these utilities are also realizing that to truly harness the power of the Smart Grid, they must also have a separate wireless broadband infrastructure capable of delivering 24/7 high-speed communication to enable a variety of additional Smart Grid benefits.”)

¹³ “AMI and Beyond: How Wireless Broadband Enables the Smart Grid Today and Tomorrow,” Motorola Solution Brief at <http://www.motorola.com/staticfiles/Business/Solutions/Utilities/ Documents/ Static%20Files/How%20Wireless%20Broadband%20Enables%20the%20Smart%20Grid.pdf>.

¹⁴ Comments of Southern Company Services, Inc. at 14.

companies and other critical private users – particularly spectrum that is suitable for broadband applications.”¹⁵ The problem of interference has been identified as a threat to smart grid interoperability, and the Electric Power Research Institute has published a draft report which recommends to the National Institute of Standards and Technology that this issue requires further study.¹⁶

The current lack of suitable spectrum is directly attributable to the Commission’s policies over the last 16 years that have consolidated and reallocated spectrum that is used by utilities and other critical infrastructure industries. The American Petroleum Institute listed just some of examples where critical infrastructure industries were forced to relocate, including the 1850-1990 MHz bands, the upper 2 GHz bands, the 12.2-12.7 GHz bands, and the 800 MHz land mobile bands.¹⁷ In addition, utilities and CI must share the 150-512 MHz and 900 MHz bands, and this has lead to spectrum interference and congestion due to increasing demand for these frequencies.¹⁸

In addition, the Commission has not allocated any spectrum for private wireless since the 900 MHz band was allocated before 1991. As the Enterprise Wireless Association estimates, there is only 30 MHz of scattered spectrum allocated for tens of millions of private wireless users across dozens of critical industries, compared with 400 MHz of spectrum that has been allocated for commercial purposes.¹⁹ More specifically,

¹⁵ Comments of the American Petroleum Institute at 6.

¹⁶ EPRI Report to NIST on the Smart Grid Interoperability Standards Roadmap, at 94 <http://www.nist.gov/smartgrid/InterimSmartGridRoadmapNISTRestructure.pdf>.

¹⁷ Comments of the American Petroleum Institute at 5-6.

¹⁸ See Comments of Southern Company Services, Inc. at 15, n. 18.

¹⁹ Comments of the Enterprise Wireless Association at 4.

Southern agrees “utilities and critical infrastructure industries are often overlooked when it comes to spectrum,” and that “there has been no allocation of non-public safety spectrum for private wireless services in nearly 25 years.”²⁰ As such, the “primary limiting factor for enterprise businesses and other critical industries in meeting their communications needs today is the availability of spectrum that they can organize to meet these very company-specific requirements.”²¹

There is also a lack of alternatives to meet utilities’ and other critical infrastructure industry needs. Generally, “neither unlicensed operations nor commercial spectrum auctions or leases are capable of meeting either the reliability needs or the cost constraints of rate-regulated utilities.”²² Ericsson concurs that “unlicensed services are not a substitute for licensed services and unlicensed use of some spectrum bands is not the best, highest use of that spectrum.”²³ Commercial spectrum auctions are inappropriate, because critical infrastructure providers are auction-exempt, many of them statutorily prohibited from participating, and as a practical matter, cannot compete with commercial service providers, while geographic service areas are not tailored to utility service territories. Finally, utilities and other critical infrastructure industries cannot simply outsource their communications needs to commercial services. While commercial services may be used for secondary and back-up communications, generally they do not provide the reliability or ubiquitous coverage that utilities and other

²⁰ Comments of Southern Company Services, Inc. at 14-15.

²¹ Comments of the Enterprise Wireless Association at 2-3.

²² Comments of Southern Company Services, Inc. at 14.

²³ Comments of Ericsson at 18.

critical infrastructure industries must have for primary communications.²⁴

Given the current shortage of available spectrum for utility and other CI purposes and the lack of alternatives, UTC agrees with the comments of Southern, which opposes any spectrum inventory of bands that are currently used by utilities and other critical infrastructure industries.²⁵ Similarly, UTC agrees with Southern that the Commission should “take great care in considering potential new technologies, such as cognitive radio, in bands that are used for utility and other CII applications,” because these devices are still new and unproven and could compromise the viability of existing systems.” As explained above and elsewhere throughout the record in this and other proceedings at the Commission, wireless communications are essential to CII operations, and CII already face significant spectrum constraints. The risk to critical infrastructure and the nation’s dependence on these essential services would far outweigh any potential benefit from reallocating these bands for broadband commercial purposes or permitting them to be used for cognitive radio or other opportunistic uses.

Therefore, the Commission should support the allocation of at least 30 MHz of dedicated spectrum for utility purposes, as described more fully in UTC’s initial comments and consistent with other comments in the record. Department of Energy Secretary Chu has stated that, “[t]he Smart Grid is an urgent national priority that

²⁴ See Comments of the American Petroleum Institute at 5 (“Commercial infrastructure is simply not robust or secure enough to be relied on in numerous environmental, geographic or work-related settings where safety of life depends on the reliability of a functioning, state-of-the art radio. Backhaul links also can be quickly oversubscribed, resulting in service degradation during peak hours and emergencies. Commercial services simply are not an acceptable substitute for mission-critical private telecommunications networks.”)

²⁵ Comments of Southern Company Services, Inc. at ii (“To the extent a spectrum inventory is used to identify bands suitable for wireless broadband, the Commission should exclude from its examination those bands that are critical to utility and CII operations.”)

requires all levels of government as well as industry to cooperate,”²⁶ Not only will this promote the goals of energy independence and environmental quality, it will also stimulate the economy.²⁷ UTC recently estimated that utility telecom spending could exceed \$5 billion this year alone; and The Information Technology and Innovation Forum published another report that shows how an investment in smart grid of \$50 billion over five years would create or retain 58,645 direct and indirect jobs and 140,475 small business jobs.²⁸ On June 25, 2009, the Department of Energy issued its smart grid grant Funding Opportunity Announcements, which make available \$3.3 billion for smart grid investment grants and \$615 million smart grid demonstration grants.²⁹ As such, the Commission should allocate spectrum to support smart grid, which will advance an “urgent national priority” and which will stimulate economic recovery and job growth.

II. Utilities and Other CII Facilitate Broadband.

As the Commission develops its national broadband plan, it should consider that utilities and other CII help to facilitate broadband in unserved and underserved areas. Comments on the record echo UTC’s comments on this point.

EDUCAUSE stated that the Commission should support broadband by municipalities and, by extension, municipal utilities. “The issue of broadband

²⁶ Locke, Chu Announce Significant Steps in Smart Grid Development
http://www.commerce.gov/NewsRoom/PressReleases_FactSheets/PROD01_007985

²⁷ It is estimated that power outages cost the economy over \$1 billion annually in GDP. Smart grid will help utilities detect outages sooner and restore power faster.

²⁸ Robert D. Atkinson, Daniel Castro and Stephen J. Ezell, “Digital Road to Recovery: A Stimulus Plan to Create Jobs, Boost Productivity and Revitalize America” at 11-16 (January 2009).

²⁹ See Smart Grid Investment Grant FOA, DE-FOA-000058 at
<http://www.grants.gov/search/search.do?mode=VIEW&oppld=46833>

deployment is too important to the future of this country to be dragged down by “turf” battles over which entities should or should not be permitted to build broadband networks. In our view, any entity that wants to build a broadband network should be permitted to do so, including municipal and state governments.” UTC agrees with this position and has fought against state restrictions of municipal broadband at the FCC and before federal courts. We urge the Commission to support municipalities and municipal utilities as potential providers of broadband services and infrastructure to their communities.

The National Rural Electric Cooperative Association (NRECA) illustrated how cooperative utilities are deploying broadband in rural unserved and underserved parts of the country.³⁰ As NRECA explained, these cooperative utilities leverage their internal communications networks to provide broadband services to their communities. It further explained that:

An Electric Cooperative’s number one priority is to keep the lights on, safely and reliably, an impossibility without robust and reliable communications systems they can count on. As Cooperatives design and construct communications networks to increase the efficiency and reliability of their electric operations, a unique opportunity arises to leverage these upgrades by building excess capacity into these networks to advance the deployment of broadband deep into the Electric Co-op’s service territory. Electric Co-ops have already recognized that coordinating backhaul construction of their internal networks and broadband deployment increases the efficiency of both efforts. Among other things, simultaneous build-outs can leverage existing easements and permits, which, as previously noted, can be a significant obstacle to rapid broadband deployment. A national broadband plan that enhances an Electric Co-op’s ability to build high speed broadband networks on the back of smart grid infrastructure is an efficient way of advancing both national objectives.³¹

³⁰ Comments of National Rural Electric Cooperative Association at 3-4 (citing cooperative utilities in Colorado, Missouri, and Oregon as examples of cooperative utilities that offer broadband services.)

³¹ Comments of the National Rural Electric Cooperative Association at 13 (June 8, 2009). See also Comments of the Vermont Public Service Board at 18 (stating that “[t]he FCC should encourage collaboration between utilities and communications providers on telecommunication networks for utility operation. For example, the joint fiber backbone network in Vermont provides the opportunity to reduce

Moreover, industry is poised to invest billions of dollars on such dual-purpose networks that create intelligent infrastructure through broadband and smart grid.³² Equipment manufacturers like Alcatel-Lucent and AT&T filed comments which illustrate how they are working with utilities to deploy fiber-optic and wireless networks.³³ This provides the best bang for the buck, and the Commission should look for this and other ways to work with utilities as it develops its national broadband plan.³⁴

III. Pole Attachments and Broadband.

A. Pole attachments are not an impediment to broadband and the Commission can promote *both* broadband and critical infrastructure by fostering a partnership in pole attachments.

UTC supports comments on the record that reject any implication that pole attachments are an impediment to broadband and which urge the Commission to foster a partnership in pole attachments between utilities and communications attachers. This partnership would be based on the mutual reliance of all parties on the integrity of the underlying critical infrastructure for the safe, reliable and effective delivery of their essential electric and communications services to the public at large. The Commission can foster this partnership by restoring balance to its pole attachment regulations.

the amount of scarcity and scarcity pricing in rural areas for middle mile service and support the affordable development of broadband and wireless communications.”)

³² Samuel J. Palmisano, “Let's Spend on Broadband and the Power Grid” Wall Street Journal, Jan. 13, 2009.

³³ Comments of Alcatel-Lucent at 23-24 (describing a fiber-optic network by Bristol Tennessee Essential Services used to improve the utility's operations); and Comments of AT&T at 69-71 (describing its involvement in “projects that provide cost-effective and secure two-way wireless connectivity between “smart meters” and the electric utility grid infrastructure.”)

³⁴ Peter Swire, “Smart Grid, Smart Broadband, Smart Infrastructure: Melding Federal Stimulus Programs to Ensure More Bang for the Buck”, Center for American Progress, Apr. 2009 at http://www.americanprogress.org/issues/2009/04/pdf/smart_infrastructure.pdf

Specifically, the Commission must eliminate rate subsidies and discourage unauthorized attachments and attachments in violation of engineering and safety codes. This will advance *both* broadband and critical infrastructure, which will in turn advance other national interests, including public safety and homeland security.

B. The Commission should not adopt additional requirements or presumptions for pole attachments.

The Commission should reject comments that urge the Commission to adopt additional requirements or presumptions with respect to pole attachment rates and access. Specifically, the Commission should reject so-called “best practices” that would require utilities to allow attachers to take shortcuts on pole attachments, which could compromise critical infrastructure reliability and public safety. Similarly, it should reject specific proposals to impose mandatory deadlines for make ready and pole attachment permits. Such deadlines would be inappropriate and unnecessary, because they would ignore various factors that can affect the time it takes to complete make ready and – moreover – there are only a few anecdotal and unsubstantiated claims of delays in completing make ready or issuing permits. Likewise, the Commission should reject presumptions regarding access and rates for wireless equipment, which is unique and raises safety issues -- particularly pole top attachments. Finally, the Commission should not adopt a presumption that attachments complying with the NESC are safe. The NESC is not a design specification, it is only a framework; moreover other utility and federal, state, and local standards apply in addition to the NESC.

C. The Commission should not expand pole attachment regulation to apply to transmission facilities; broadband providers that are not CATV operators or non-ILEC telecommunications service providers; or cooperative utilities.

The Commission should also reject comments that urge the Commission to expand the scope of pole attachments. Specifically, it should reject comments that would regulate attachments to transmission facilities. Courts have held that interstate transmission facilities are outside the Commission's pole attachment jurisdiction. In addition, it should reject comments that would make eligible broadband providers that are not cable television operators or non-ILEC telecommunications service providers. The Commission's pole attachment jurisdiction only extends to CATV operators and CLECs. Finally, the Commission should reject comments that would regulate cooperative utilities. These utilities are exempt under Section 224(a)(1) of the Communications Act of 1934; moreover it is unnecessary to regulate cooperative utilities for purposes of pole attachments, as more fully described in the comments and reply comments of the National Rural Electric Cooperative Association.³⁵

³⁵ Comments of the National Rural Electric Cooperative Association at 9-11 (filed June 8, 2009); and Reply Comments of the National Rural Electric Cooperative Association (filed July 21, 2009).

CONCLUSION

WHEREFORE, the premises considered, UTC respectfully requests that the Commission act as requested herein. Specifically, the Commission should support the allocation of at least 30 MHz of spectrum for critical infrastructure industries, which will advance the national policy interest in the promotion of smart grid, as well as the safety, reliability and security of the nation's critical infrastructure. In addition, utilities facilitate broadband by offering wholesale and retail services, although they are not major broadband competitors. In that regard, pole attachments are not an impediment to broadband deployment. Moreover, the Commission can promote both broadband and critical infrastructure by fostering a partnership in pole attachments between utilities and communications attachers -- by eliminating rate subsidies and discouraging unauthorized attachments and attachments in violation of engineering and safety codes.

Respectfully submitted,

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