

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)
)
Implementation of Smart Grid Technology) GN Docket Nos. 09-47 & 09-137
)
A National Broadband Plan For Our Future) GN Docket No. 09-51
) DA 09-2017



COMMENTS

The National Telecommunications Cooperative Association (NTCA)¹ responds to the September 4, 2009 Federal Communications Commission (Commission or FCC) Public Notice seeking additional, targeted comment on the implementation of smart grid technology as part of the National Broadband Plan for the United States (NBP).² The Commission should not give away valuable spectrum to smart grid providers as some utilities have suggested, and should not subsidize smart grid utilities' spectrum expenses, especially in rural areas where the utilities may compete against existing voice and data service providers. The Commission should also, as part of the NBP, further explore issues and concerns about privacy, security and interoperability raised in the pending National Institute of Standards and Technology (NIST) smart grid interoperability standards proceeding.

¹ NTCA is a premier industry association representing rural telecommunications providers. Established in 1954 by eight rural telephone companies, today NTCA represents 585 rural rate-of-return regulated telecommunications providers. All of NTCA's members are full service rural local exchange carriers (LECs) and many of its members provide wireless, cable, Internet, satellite and long distance services to their communities. Each member is a "rural telephone company" as defined in the Communications Act of 1934, as amended (Act). NTCA's members are dedicated to providing competitive modern telecommunications services and ensuring the economic future of their rural communities.

² *In the Matter of a National Broadband Plan for Our Future, Comment Sought on the Implementation of Smart Grid Technology*, NBP Public Notice #2, GN Docket Nos. 09-47, 09-51, 09-137 (rel. Sep. 4, 2009) (Public Notice).

I. BACKGROUND.

Smart grids consist of real-time, two-way communications systems that allow consumers to make timely, effective decisions on electricity use as a function of price spikes. Scenarios of smart grid applications would permit a homeowner to turn off her dryer while at work or encourage a utility customer to turn down his thermostat while on vacation after receiving a text message or email of an impending peak hour. Smart grids and smart grid devices are expected to reduce consumers' energy bills and the nation's power demands. Smart grids permit utilities and their customers to reduce energy usage and avoid black-outs by allowing real-time reduction of energy use during peak hours. This reduction can be prompted using in-home energy displays, demand response price signals (higher price per kilowatt hour during peak usage), through customer-induced curtailment of usage, and through utility-controlled load shedding. Smart grids using Advanced Metering Infrastructure (AMI) meters also can provide quick notification of power outages.

The Commission rightly included smart grid issues as part of the National Broadband Plan because smart grid data transmission between the consumer's home or business location and the power company depends on broadband infrastructure. Smart grids can be intensive high-consumption users of Internet services which, consequently, would place substantial demands on broadband providers. The Commission has sought, in the context of its National Broadband Plan, comments on the merits of smart grid applications and the communications technologies necessary to implement smart grid programs.³

³ Public Notice, p. 1.

Congress has allocated \$4.5 billion in American Recovery and Reinvestment Act of 2009 (ARRA) funds through the U.S. Department of Energy (DOE) for utility industry smart grid demonstration projects and grants.⁴ The DOE's \$3.4 billion Smart Grid Investment Grant Program alone will accelerate the deployment speed of smart grid elements. The utility industry's enhanced interest in smart grid deployment has raised spectrum use concerns because smart meters depend on valuable, scarce spectrum to transmit real-time billing and usage data to utility companies, customers, and information networks.

II. THE COMMISSION SHOULD NOT GIVE AWAY SPECTRUM FOR SMART GRID, AS SOME UTILITIES SUGGEST.

The Commission seeks comment on the costs of different communication technologies used in connection with smart grid applications.⁵ A key component of smart grid costs will be the spectrum used to communicate wirelessly with the smart grid devices. The Utilities Telecom Council and Electric Edison Institute have stated in this docket that utilities are revamping portions of the electric grid and their internal usage of telecommunication facilities to bring broadband to some communities through BPL (broadband over power line) and smart-grid electric usage applications.⁶ Several electric utility commenters in this docket have suggested that 30 MHz of spectrum in the 1800 – 1830 MHz band should be set aside for smart grid applications to match a Canada bandwidth allocation proceeding, and that this spectrum should be assigned auction-free or without cost.⁷

⁴ For a more complete breakdown of the DOE \$4.5 billion allocation of ARRA funds, go to the DOE's website: http://www.oe.energy.gov/information_center/american_recovery_reinvestment_act.htm.

⁵ Public Notice, p. 2.

⁶ *National Broadband Plan*, GN Docket No. 09-51, Utilities Telecom Council and Electric Edison Institute (UTC/EEI) Joint Initial Comments, pp. 10-11 (filed June 8, 2009).

⁷ *Id.* at 7-8, 10-11; Southern Company Services (SCS) Reply Comments, pp. 19-20 (filed July 21, 2009). SouthernLINC Wireless is a wholly-owned subsidiary of Southern Company Services. SCS Initial Comments, p. 14, n. 17 (filed June 8, 2009). SCS also proposes to relax the eligibility and risk assumption requirements in the 700 MHz and 4.9 GHz bands as a means to make more spectrum available for smart grid. *Ibid.*

The Commission should not award spectrum free of cost or at a discount for smart grid applications. Spectrum is too valuable a resource for the Commission to give away for smart grids. The FCC's 700 MHz auctions in early 2008, for example, yielded net winning bids totaling nearly \$19 billion.⁸ Spectrum is critical in rural areas and its availability is limited. Rural wireless providers, including NTCA member companies, need realistic spectrum opportunities, so the Commission should look to proven strategies (like small geographic areas) that put spectrum into the hands of rural community providers. Giving away 30 MHz of spectrum for smart grid applications will cut deeply into the limited available supply of spectrum, and the Commission has not prioritized smart grid as a spectrum use higher than other broadband applications.⁹ To accomplish truly ubiquitous broadband deployment in rural areas, the Commission must lower barriers for small, rural wireless providers. Removing 30 MHz from the supply of available spectrum raises, not lowers, the barriers for small rural wireless providers.

CTIA recently asserted that spectrum needs are so dire that the Commission should begin searching and consolidating 800 MHz just for wireless broadband needs.¹⁰ The Commission has issued a request for comment on the need for spectrum for broadband.¹¹ The Commission's Omnibus Broadband Initiative (OBI) team, in its September 29, 2009 presentation, concluded that the spectrum pipeline is drying up and that only 50 MHz of spectrum suitable for broadband

⁸ FCC spectrum auctions data, available at: http://wireless.fcc.gov/auctions/default.htm?job=auctions_all, accessed Oct. 1, 2009.

⁹ UTC/EEI state that 30 MHz is needed -- "10 MHz for nationwide voice dispatch and 20 MHz for high speed data to support vehicular data, AMI, and smart grid and security needs." UTC/EEI Joint Initial Comments, p. 8, n. 10 (filed June 8, 2009).

¹⁰ *National Broadband Plan*, GN Docket No. 09-51, CTIA ex parte (filed Sep. 29, 2009).

¹¹ *Pleading Cycle Established for Comment on Spectrum for Broadband*, NBP Public Notice #6, GN Docket Nos. 09-47, 09-51, 09-137, DA 09-2100 (rel. Sep. 23, 2009).

was going to be made available relatively soon.¹² Thirty megahertz of dedicated spectrum is a substantial amount of spectrum to dedicate towards smart grid, so the Commission should scrutinize carefully that request.

The Commission states that “electric utilities offer near universal service” and seeks comment on the impact of smart grid developments on existing communications networks.¹³ The Commission must recognize that electric utilities who use their smart grid infrastructure to provide information or telecommunication services to customers, become competitors to the existing communication service providers, in urban and rural areas. Competition for voice and broadband services, especially in rural areas, can prove expensive for small rural providers who already depend on federal cost recovery mechanisms and federal RUS loans to support their customer services. Permitting electric utilities to acquire spectrum at an auction-free, discounted or zero price for spectrum will unfairly benefit the utilities over wireline, wireless, cable and satellite providers of information services and telecommunication services. High cost rural areas will feel the heaviest burden of subsidized competition. The Commission should not create such a regulatory disparity and should, therefore, require utilities to pay market-based prices for smart grid spectrum.

III. OTHER SMART GRID CONCERNS – DATA PRIVACY, NETWORK SECURITY AND INTEROPERABILITY – ARE RAISED IN THE NIST REPORT AND MERIT ATTENTION.

The Commission seeks comment on privacy and security requirements for data gathered by third party application developers and device makers.¹⁴ These valid concerns, along with interoperability standards, are being examined in the context of the NIST draft smart grid

¹² Commission Open Meeting Presentation, Sep. 29, 2009, Omnibus Broadband Initiative team presentation, slides 63, 74, available at: http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-293742A1.pdf.

¹³ Public Notice, p. 2.

¹⁴ Public Notice, p. 3.

interoperability report released by the U.S. Department of Commerce in September 2009 (NIST Report).¹⁵ The 90+ page NIST Report, now released for public comment, was created pursuant to the Energy Independence and Security Act (EISA) of 2007. The draft Report is the framework for protocols and model standards for managing information among smart grid devices and systems.¹⁶ The draft Report contains nearly 80 existing standards that can be used for smart grid development, and a final report is expected to be released during the fourth quarter 2009.¹⁷ NIST estimates that the smart grid will ultimately require hundreds of standards.¹⁸

Security for the electric grid and data privacy are concerns already noted by the Commission in its Public Notice.¹⁹ Cybersecurity standards are being explored in the NIST proceeding, both for the electric grid and for information networks. Connecting home appliances to home PCs to data networks and to the electric grid can offer many portals of entry for inadvertent and direct attacks and sabotage. The Commission's NBP should reflect consideration of the NIST standards on security.

Privacy of the billing and usage data gathered by the utilities and transmitted over the communications networks is another area addressed in the NIST Report. Characterized by NIST as the "Achilles heel," the interconnectedness of smart grid prompted NIST to note privacy advocacy efforts to identify and resolve privacy questions such as, "Who owns the data generated and transmitted over the smart grid?"²⁰ Corollary questions arise including "Who has rights to the data?" "Should an electric company be permitted to sell customer lists to appliance

¹⁵ U.S. Department of Commerce, National Institute of Standards and Technology, Office of the National Coordinator for Smart Grid Interoperability, "NIST Framework and Roadmap for Smart Grid Interoperability Standards, Release 1.0 (Draft) (rel. Sep. 24, 2009) (NIST Report). The NIST Report is available at: http://www.nist.gov/public_affairs/releases/smartgrid_interoperability.pdf.

¹⁶ NIST Report, p. 5.

¹⁷ *Ibid.*

¹⁸ *Id.* at 6.

¹⁹ Public Notice, pp. 3-4.

²⁰ NIST Report, p. 84.

manufacturers who may want to target their energy-efficient appliances (washers, dryers, air conditioners) to specific customers whose electric usage is high?” “How can a customer opt-out of receiving unwanted text ads without cost?” These privacy concerns, and their dispute resolution procedures, have not been resolved. The Commission should review the draft and final NIST Report and incorporate relevant portions into its record for the NBP.

IV. CONCLUSION

For these reasons, the Commission should not give away spectrum to smart grid providers, as some utilities have suggested, because spectrum is too valuable and too scarce. The Commission should not subsidize smart grid utilities’ spectrum expenses, especially where the utilities may compete against existing rural voice and data providers. The Commission should also, as part of the National Broadband Plan, further explore issues and concerns about privacy, security and interoperability raised the NIST Report.

Respectfully submitted,



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October 2, 2009

CERTIFICATE OF SERVICE

I, Adrienne L. Rolls, certify that a copy of the foregoing Comments of the National Telecommunications Cooperative Association in GN Docket Nos. 09-47, 09-51, 09-137, DA 09-2017, was served on this 2nd day of October 2009 by first-class, United States mail, postage prepaid, or via electronic mail to the following persons:

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