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

In the Matter of	)	
	)	
Technology Transitions	)	GN Docket No. 13-5
	)	
Connect America Fund	)	WC Docket No. 10-90
	)	
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EXPRESSION OF INTEREST
OF TEXAS 10, LLC AND CENTRAL LOUISIANA CELLULAR, LLC
IN A NEXT GENERATION NETWORK EXPERIMENT IN RURAL AMERICA
TRANSITIONING GSM NETWORKS TO LTE IN HIGH COST AREAS

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I. Introduction and Overview

Texas 10, LLC d/b/a Cellular One and Central Louisiana Cellular, LLC d/b/a Cellular One (collectively, "Cellular One") respectfully express interest in conducting a Next Generation Network Experiment in Rural America to meet the Commission's goal of deploying high-speed, scalable, IP-based networks in high-cost areas of rural East Texas and Central Louisiana. This would result in mobile broadband that not only will cover many thousands of eligible census blocks with affordable, high-speed, scalable, IP-based LTE, for far less than model support, but also, among other things, will bring speeds as high as 30 Mbps downlink and 10 Mbps uplink to federally designated Reservation lands in Grant Parish, Louisiana, as well as broadband coverage to state designated tribal lands in adjoining parishes (counties).

For one-time capital expenditures support of approximately one-third less than model support, accompanied by two years of only 10% of model support for a portion of operating expenses, Cellular One is prepared to deploy scalable LTE networks with LTE-Advanced features, and offer consumers rates more affordable than similar terrestrial wireline offerings. This deployment will cover many thousands of eligible areas in four rural cellular markets with mobile broadband, providing 80 to 90% of homes in these cellular market areas with speeds of 4 Mbps downlink and 1 Mbps uplink, speeds of 6 Mbps downlink and 2 Mbps uplink to approximately 60% of homes in the covered areas, and speeds as high as 30 Mbps downlink and 10 Mbps uplink to many areas including federally designated of the Jena Tribe of Choctaw Tribal lands in Grant Parish. Through this experiment, Cellular One also will offer fixed wireless with speeds as high as 200 Mbps to schools with 1000 or more students.

This experiment will meet the enduring values set forth by Congress, as discussed further herein; this is a competitive carrier project to provide ubiquitous and affordable access to LTE, benefiting consumers, public safety and anchor institutions. In addition, Cellular One recognizes the Commission's objectives and is willing to work cooperatively to gather comprehensive, statistically sound information for the Commission. Cellular One stands ready

and willing to work cooperatively with the Commission to ensure the agency's goals are achieved.

A. *Executive Summary: High-Speed, Scalable IP-Based LTE For Less Than Model-Based Support*

As an experienced rural wireless carrier, Cellular One proposes to efficiently and effectively transition GSM networks in up to four Cellular Market Areas (CMAs) to Long Term Evolution (LTE), improved with certain additional LTE-Advanced features, in substantially all of four contiguous rural cellular markets in Texas and Louisiana. This experiment will build infrastructure providing the modern benefits of next generation LTE to numerous eligible census blocks in the American Central South, including Tribal lands, with one-time Connect America support of capital expenditures in amounts significantly less than support, commencing with a single year of capital expense support at approximately 1/3 less than model support, followed by two years of operational expense support at 90% less than model support.

> ***"Like electricity a century ago, broadband is a foundation for economic growth, job creation, global competitiveness and a better way of life."***

-- Federal Communications Commission, Connecting America: The National Broadband Plan, at XI (2010).

This transition of underserved and unserved rural areas to LTE will provide a platform for rural development and growth in tens of thousands of eligible high cost locations, making high-speed, scalable services available to consumers, businesses, and community anchor institutions.

This experiment will provide speeds in many areas as high as 30 Mbps downlink and 10 Mbps uplink, and speeds of 6 Mbps downlink and 2 Mbps uplink at approximately 60% of homes in these areas. Remaining homes in the covered areas would generally receive the broadband speeds required from rate of return carriers. Round trip provider latency should not exceed 100 milliseconds, with a minimum of 100 GB of usage. This robust high-speed service will be offered at rates that are more affordable than similar terrestrial wireline offerings in rural areas. Furthermore, as part of the experiment, any schools in eligible census blocks with 1,000 students or more will be asked whether they desire faster service, and if they accept, Cellular One expects to offer fixed wireless to their locations with speeds as high as 200 Mbps, at affordable rates reasonably comparable to those charged for similar services in urban areas.

Cellular One will survey consumers, including one or more control groups of landline customers and wireless customers not receiving the experimental services, in order to provide the Commission with clear and useful information in furtherance of the agency's policies and purposes in this proceeding. Cellular One also proposes to submit regular reports on the demographic and geographic characteristics of these rural areas. We will conduct surveys of matters including the needs of anchor institutions, characteristics of wireless services consumers would view as an acceptable substitute for fiber-based broadband service, how these transitions will impact anchor institutions and the people they serve, how the transition would affect residents of Tribal lands, and the relative importance of specific service attributes to consumers.

By providing the Commission with robust data, this experiment will enhance the agency's ability to tailor its CAF Phase II support designation solutions with statistical data collections. We can provide high quality data to the Commission and welcome its input into the content of these surveys, including one or a series of baseline surveys at the outset.

II. The Experiment Will Preserve and Promote Enduring Values

This experiment will preserve and promote the enduring values set forth in the Act: public safety, ubiquitous and affordable access, competition, and consumer protection.[1] Deployment of LTE in the designated markets will strengthen these values through:

- diligent and experienced construction by a competitive carrier of ubiquitous and affordable access to fast, scalable, IP-based broadband;
- providing mobile safety to consumers outdoors, which is critical in rural businesses such as energy field development and forestry, and preserving the ability of public safety first responders to transition to the next generation of technology at a reasonable pace;
- providing highly ubiquitous services, accessible not only within buildings but also at a multitude of exterior locations including forests, fields, parklands and recreational areas, where consumers communicate for purposes including access to emergency services;
- providing services reasonably comparable to services provided in urban areas,
- competitively offered at rates more affordable than similar terrestrial wireline offerings in rural and in urban areas; and
- protecting consumers through safe and trusted business practices designed to safeguard their personal information and digital identities in compliance with law, while providing a next generation network to meet their communications needs.

By furthering these enduring values, this experiment will strengthen the effectiveness of targeted universal service initiatives. These will increase opportunities in these rural areas for increased economic strength. A report from Deloitte indicates wireless broadband is expected to have a significant role in expanding rural job creation.[2] Jobs and associated rural development

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[1] As noted in the Report & Order soliciting IP experiments, Commissioner Rosenworcel recently summarized these values before the U.S. Senate Financial Services Subcommittee and Appropriations Committee. *See* Report and Order, Connect America Fund, WC Docket No. 10-90, et al., FCC 14-5, 79 Fed. Reg. 11327, at 9 n. 36 (adopted Jan. 30, 2014, rel. Jan. 31, 2014) (*"Next Generation Network Experiments Order"*), *citing* Statement of Commissioner Jessica Rosenworcel, Federal Communications Commission, statement before the United States Senate Subcommittee on Financial Services and General Government Committee on Appropriations, A Review of the President's FY2014 Funding Request and Justification for FCC (Sept. 11, 2013), available at http://www.fcc.gov/document/commissioner-rosenworcel-senate-hearing-fcc-fy2014-appropriations.

[2] *See* Amy Gahran, Special to CNN: COULD BETTER MOBILE NETWORKS CREATE MORE U.S. JOBS?, available at http://edition.cnn.com/2011/TECH/mobile/08/24/4g.stronger.gahran/ (August 24, 2011); *see also, e.g.*, Deloitte: U.S. Could See $53 Billion in 4G Network Investments by 2016, Creating 771,000 New Jobs: New 4G products and services could drive additional growth, Press Release, http://www.deloitte.com/view/en_US/us/press/Press-Releases/1fb3714f990f1310VgnVCM3000001c56f00aRCRD.htm (August 22, 2011).

benefits will accrue in these areas as a result of mobile broadband network infrastructure and operations, facilitating the narrowing of social and digital divides.[3]

[3] *See* Federal Communications Commission, *Connecting America: The National Broadband Plan*, at 171 (2010) (*National Broadband Plan)*; see also, e.g., The Broadband Digital Divide and the Economic Benefits of Mobile Broadband for Rural Areas,

A. *Leveraging Support to Comprehensively Serve Consumer Needs*

The Markets are ideally positioned for a technology experiment. Communications enabling more information-driven businesses in these rural areas should lead to an increase in beneficial rural development. The experiment will endeavor to measure "impacts of the technology transition on economic efficiency and productivity"[4] through submission of evolving demographic metrics and survey results to the Commission over time. As discussed *infra*, this experiment also will help the Commission determine "how to best leverage the support available from all of the Commission's universal service programs to comprehensively serve the needs of rural communities, including their educational and health care needs."[5]

B. *Open Internet*

Cellular One voluntarily maintains open Internet policies that further the Commission's goals of network neutrality for Internet access and preservation of the "virtuous cycle of innovation that has benefited consumers, edge providers and broadband networks."[6] Chairman Wheeler has written extensively on the beneficial tendency of new networks to reverse traditional concentrations of economic and creative activity, instead pushing activity to "the edge," rapidly sending information to the user's location and decentralizing economic and creative activity "to enable small-scale yet interconnected and economically-efficient activity on a geographically dispersed basis."[7] These economically efficient activities are precisely the engines that can further economic development in rural areas. The Chairman notes that 62% of Americans rely upon the Internet to do their jobs.[8] The Commission has explained that "broadband is a powerful engine for innovation and investment in America in part because the Internet is an open platform, where anyone can communicate and do business with anyone else on a level playing field."[9] In light of Cellular One's open Internet policies, this experiment will harness the power of broadband and the distributed nature of the Internet to provide additional benefits to rural consumers seeking streaming access to edge services without unreasonable blocking. Cellular One could survey consumers on the value of open Internet access in meeting their information and communication needs.

C. *Cellular One's Open Internet Policies*

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[4] *See id.*, at ¶ 108 (adopted Jan. 30, 2014, rel. Jan. 31, 2014) (*"Next Generation Network Experiments Order"*).

[5] *See id.*, at ¶ 198.

[6] *See* Statement by FCC Chairman Tom Wheeler on the FCC's Open Internet Rules, available at http://www.fcc.gov/document/statement-fcc-chairman-tom-wheeler-fccs-open-internet-rules (Feb. 19, 2014) ("Preserving the Internet as an open platform for innovation and expression while providing certainty and predictability in the marketplace is an important responsibility of this agency.").

[7] *See* FCC Chairman Tom Wheeler, "Net Effects," available at http://www.fcc.gov/page/net-effects-past-present-and-future-impact-our-networks, at 8-9 *("Net Effects")*.

[8] *Id.* at 15, *citing* Mary Madden and Sidney Jones, Pew Internet & American Life Project, "Networked Workers, at 3 (2008).

[9] *Preserving the Open Internet; Broadband Industry Practices*, GN Docket No. 09-191, WC Docket No. 07-52, Notice of Proposed Rulemaking, 24 FCC Rcd 13064, 13065, ¶ 95 (2009) (*Preserving the Open Internet NPRM*).

Cellular One complies with the Commission's rules regarding wireless network neutrality disclosures. Furthermore, it voluntarily does not block customers in good standing from accessing lawful Internet sites and applications that are not likely to result in harm to the Cellular One network, services, use of the network or services, or customers or employees of Cellular One. Furthermore, subject to reasonable network management practices, Cellular One does not block specific protocols or protocol ports, applications or classes of applications, and similarly does not block access to applications that provide voice or video telephony services. Cellular One voluntarily maintains these policies because it believes in the value of a distributed Internet. These policies and procedures promote the public interest in achieving seamless access to the benefits of the Internet through modern communications platforms.

III. Experiment Description and Eligible Areas

In order to bring rural consumers the speeds and latency of the next generation of technology, Cellular One proposes to deploy LTE, with additional LTE Advanced features, across eligible census blocks within four contiguous, highly rural markets in Texas and Louisiana, defined by Cellular Market Areas CMA661, CMA662, CMA456 and CMA205 ("Markets"). These Markets include state-designated and federally recognized Tribal lands in Louisiana, as well as rural community anchor institutions including schools and health care facilities. The Markets are primarily served by price cap carriers, although some areas are served by rate of return carriers.

Consumers will be able to transition to the high-speed network at a voluntary, gradual pace. The robust last-mile broadband enabled by this experiment will be offered at rates generally more affordable than similar terrestrial wireline offerings in rural areas. As Commissioner Clyburn has noted, government studies show low income Americans are adopting broadband less rapidly due primarily to service and equipment prices, rather than disinterest.[10] The affordable rates offered by Cellular One should increase broadband adoption in the areas covered by the experiment.

Cellular One proposes to survey consumers, including one or more statistically meaningful control groups, with surveys that Commission staff may help design if desired, in order to provide the Commission with clear and useful information about the conditions under which consumers in rural markets prefer next generation wireless services over wireline alternatives. Relevant control groups would consist of one or both of the following groups: wireless customers that have not switched to the broadband service, and landline customers in the same market areas. The survey will question which characteristics of wireless services consumers would find to be an acceptable substitute for fiber-based broadband service, how these transitions will impact anchor institutions and the people they serve, how the transition would affect residents of Tribal lands, the relative importance of specific service attributes to consumers, and additional inquiries furthering the important information gathering purposes of this proceeding. In addition, geographic and demographic data will be provided to the Commission.

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[10] *See* Public Notice, *Statement of Commissioner Mignon Clyburn Regarding Broadband Affordability and Competition* (March 10, 2010).

A. *Network Speeds, Performance Characteristics, and Support*

Cellular One provides retail and wholesale commercial wireless services based upon the Global System for Mobiles (GSM), with EDGE and General Packet Radio Service (GPRS), that is, 2G, and in some areas UMTS with High Speed Packet Access (HSPA/HSPA+), or 3G service. Cellular One's physical network in these Markets consists of a voice and data core in Louisiana, base station equipment consisting of transmitters, receivers, amplifiers, antenna arrays and lines, on cell sites throughout the Markets, and an extensive TDM, microwave, and fiber backhaul network.

In this experiment, Cellular One will leverage its existing assets to deploy high-speed wireless LTE infrastructure at a very reasonable incremental cost. Cellular One would request one-time support for these costs, consisting almost entirely of capital expenditures, in one-time amounts significantly less than those calculated by the forward-looking cost model for the eligible census blocks within the applicable census tracts.[11] In fact, Cellular One currently estimates[12] that it can carry out the experiment for a one-time amount fully one-third less than indicated by the cost model, which provides for such support on a recurring annual basis. Moreover, its IP-enabled LTE network will perform "well in excess of the minimum standards that price cap carriers accepting model-based support are required to offer to all locations in funded areas,"[13] thus providing rural America with broadband speeds far exceeding those to which they would otherwise have access.

While wireless broadband speeds vary depending upon factors such as distance from the cell site, the Cellular One network in the Markets already includes hundreds of cell sites, and therefore is ripe for the transition to IP-enabled services. The Cellular One experiment to transition to LTE in these areas will produce speeds as high as 30 Mbps downlink and 10 Mbps uplink, and speeds of 6 Mbps downlink and 2 Mbps uplink at approximately 60% of homes covered. Round trip provider latency is not expected to exceed 100 milliseconds, with a minimum of 100 GB of usage. In order to deploy LTE, Cellular One would upgrade the GSM and UMTS equipment and software at its existing transmitter sites, as well as core network elements at its switching center serving these Markets, and would increase its backhaul network capacity correspondingly to handle the increased data volume that results from broadband upgrades.

B. *Services and Rates*

The contemplated service offerings are expected to enable services including, but not limited to, fast Internet browsing, streaming films, video chat, rapid downloads of applications, presentations, movies and photos, seamless access to interactive applications and multiplayer

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[11] *See* Report and Order, Connect America Fund, WC Docket No. 10-90, et al., FCC 14-5, 79 Fed. Reg. 11327, at ¶ 94 (adopted Jan. 30, 2014, rel. Jan. 31, 2014) (*"Next Generation Network Experiments Order"*).

[12] When the agency makes available granular support information at the census block level, Cellular One will be able to hone its projections with greater precision.

[13] *See Next Generation Network Experiments Order,* at ¶ 94.

games, and more. This robust last-mile broadband would be offered at rates comparable to and in most cases more affordable than similar terrestrial wireline offerings in rural areas.

Upgrading to LTE would be completely voluntary for existing customers. Cellular One would continue existing network operations in parallel for a reasonable amount of time in order to allow a gradual transition for customers.

C. *Permits, authorizations, and ETC status*

Cellular One holds FCC authorizations enabling it to operate on 850 MHz band cellular and PCS frequencies. The Louisiana Markets include state-designated and federally recognized tribal lands. Cellular One already holds all federal, state, local, tribal and municipal licenses, permits, rights-of-way and authorizations necessary for operations at its cell sites in the Markets.

Cellular One will not request support to upgrade its Mobility I areas to 3G. Any support for such areas would be requested in lesser amounts, to be used only for the incremental upgrade from 3G to 4G.

Cellular One offers discounts to low income customers, it will survey customers on matters including educational and health care needs, and it already has the support to upgrade its Mobility I areas to 3G, thus lowering the incremental cost of supporting this transition to LTE. Thus, this experiment will "best leverage the support available" from a combination of the Commission's universal service programs[14] "to comprehensively serve the needs of rural communities, including their educational and health care needs." [15]

D. *Emergency services*

Cellular One takes its legal obligations seriously and complies with all applicable rules and sections of the Act, including universal service purposes and requirements. Like landline ETCs, Cellular One complies with Lifeline, voice calling, carrier of last resort and other obligations throughout the wire centers of ILEC service areas in accordance with the state commission orders granting it ETC status. Regardless of whether Title II of the Act applies to the provision of broadband, these threshold proceedings applied requirements for the privilege of eligibility and support that may remain binding. We will watch with interest any requests for relief or partial relief from ETC obligations in IP experiments or elsewhere.[16]

Cellular One's wireless services comply with the Commission's rules regarding access to 911 and Enhanced 911, providing caller information and location to relevant Public

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[14] In states where we have inquired, it appears states' universal service funds do not in the ordinary course provide support to wireless carriers not affiliated with ILECs. Thus, we have not received state support for infrastructure. Our customers do contribute to state universal service funds, and, because Cellular One has designated competitive ETC status for federal purposes in these states, it is subject to carrier of last resort and other universal service obligations.

[15] *See id.*, ¶ 108.

[16] *See, e.g.*, AT&T Proposal For Wire Center Trials: Wire Center Trial Operating Plan, *GN Docket No. 13-5; GN Docket No. 12-353*, at 42 (Feb. 27, 2014).

Safety Answering Points (PSAPs) in conformity with Phase I and Phase II requirements, as applicable in each area. Cellular One expects that this transition will not have any material impact on government functions including police, fire, Emergency Medical Services (EMS), or the Federal Aviation Administration (FAA) or Department of Defense (DoD); or on consumers' ability to access 911 and other emergency services, other public safety and security requirements, including 911 and E911 calls; CALEA requirements; network outages or disruptions to service; or on the ability to meet cybersecurity or other threats and disasters. Cellular One companies also operate cellular services in the hurricane-prone Gulf of Mexico, and it has extensive experience and expertise in disaster recovery.

IV. Efficient Procedures Will Be Essential

As the Commission stated at the outset of its January 31 item: "We must act with dispatch. Technology transitions are already underway." The speed of wireless technology innovation is lightning fast, with generations cycling rapidly. In consideration of the rural consumers awaiting 4G in unserved markets, we urge the Commission to conduct the remainder of this proceeding at the most expeditious pace it deems prudent. Just as the agency conducted its complex initial broadband PCS rulemakings and implementation of the Telecommunications Act of 1996 with excellent efficiency and effectiveness, so too it can and should rapidly resolve matters in this docket. The Chairman is a proponent of "expeditious, fact-based policymaking,"[17] and the Commission has stated, with regard to the transition to support of broadband: "Success will come from a clear road map for reform, including guidance about the timing and pace of changes to existing regulations, so that the private sector can react and plan appropriately."[18] Accordingly, we urge the Commission to clearly and expeditiously manage the path to experiments with proven project management procedures, such as:

- establish and adhere to an administrative procedures schedule, including the final Order, grants, challenge resolutions and disbursements of support;
- promptly address NPRM issues;
- authorize experiments with dispatch;
- rapidly resolve challenges;
- keep reporting burdens moderate and thus feasible for a larger potential universe of participants; and
- work with USAC to agree upon a publicly available timeframe within which it will provide support for these experiments. When support is delayed, carriers may end up using private loan facilities, paying interest, in order to keep construction schedules moving. This can add cost to infrastructure projects.

Cellular One appreciates and is grateful for any attention the Commissioners, staff, and USAC can bring to these matters of timing.

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[17] *See, e.g.*, *Net Effects*, at 29 ("Investigating how the agency can operate quickly and smoothly under the procedural requirements of the Administrative Procedure Act (APA) should be a priority.").

[18] *National Broadband Plan*, at 141 (2010).

V. Summary

Cellular One, an experienced competitive wireless carrier, is prepared to promptly and effectively deploy fast, scalable, IP-based mobile and fixed wireless broadband.[19] This experiment will deploy next generation LTE, with certain LTE-Advanced features, throughout numerous eligible census blocks in four contiguous rural cellular market areas in Texas and Louisiana, including Tribal lands, with one-time Connect America support in amounts significantly less than those calculated by the forward-looking cost model for eligible census blocks within the applicable census tracts. Cellular One will survey consumers and provide the Commission with clear and useful information in furtherance of the agency's policies and purposes in this proceeding. Cellular One also proposes to submit regular reports on the demographic and geographic characteristics of these rural areas. By providing the Commission with valuable information, including answers regarding impacts of the technology transition on economic efficiency and productivity, this experiment will enhance the agency's ability to appropriately tailor its CAF Phase II solutions. Cellular One would preserve the ability of customers to transition to the next generation of technology voluntarily and at a reasonable pace.

These new, IP-enabled services will include fast Internet browsing, video chat, rapid downloads of applications, movies and photos, seamless access to interactive applications and multiplayer games, high-speed streaming video, and more, and will be offered at rates more affordable than similar terrestrial wireline offerings in rural areas. The LTE platform will offer covered areas minimum speeds comparable to the initial speeds required of CAF recipients, but with transmission speeds at many locations that are far faster than the minimum speed standards that price cap carriers accepting model-based support are required to offer. In addition, any schools in eligible census blocks with 1,000 students or more will be asked whether they desire faster service, and those accepting would receive fixed wireless with speeds as high as 100 to 200 Mbps. Furthermore, in light of Cellular One's voluntarily maintained open Internet policies, subject to reasonable network management, this experiment will provide unblocked access to edge services at broadband speeds, to the benefit of rural consumers. Cellular One is ready and willing to work cooperatively with the Commission in order to ensure its goals are achieved.

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[19] *See Net Effects*, at 27 ("delay is the enemy of innovation, and competition is the lifeblood (or *sine qua non*) of growth and innovation.").

VI. Conclusion

For the foregoing reasons, Cellular One expresses interest in the Next Generation Experiment in Rural America proceeding, and respectfully requests that the Commission accept for consideration this expression of interest and experiment description.

Respectfully submitted,

/s/ Julia K. Tanner

JULIA K. TANNER

Attorney for:

Texas 10, LLC d/b/a Cellular One and
Central Louisiana Cellular, LLC d/b/a Cellular One
1170 Devon Park Drive, Suite 104
Wayne, Pennsylvania 19087
Telephone: (610) 535-6900

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