BEFORE THE FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Inquiry Concerning the Deployment of Advanced Telecommunications Capability To All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act	)	GN Docket No. 09-137
	)	
A National Broadband Plan for Our Future	)	GN Docket No. 09-51
	)	
International Comparison and Consumer Survey Requirements in the Broadband Data Improvement Act	)	GN Docket No. 09-47

REPLY COMMENTS OF
TEXAS STATEWIDE TELEPHONE COOPERATIVE, INC.

I. Introduction and Summary

Texas Statewide Telephone Cooperative, Inc. (TSTCI) offers these reply comments relative to the Commission's NBP Public Notice #1 (Public Notice).[1] TSTCI is an association representing 38 small, rural incumbent telephone companies and cooperatives in Texas that are committed to the deployment of broadband services throughout their service areas (see Attachment 1). TSTCI member companies serve almost one third of the geography of Texas including many remote and sparsely populated areas of the State and are well aware of the challenges of bringing broadband to all Americans, particularly in the high cost rural areas of the country.

In its Public Notice, the Commission requested comments on a series of questions related to broadband performance indicators, including the feasibility and verifiability of

[1] Comments Sought on Defining "Broadband", NBP Public Notice #1, GN Docket Nos. 09-47, 09-51, 09-137, Released August 20, 2009.

measuring different performance indicators. Depending upon how broadband is ultimately defined, and if the Commission requires measurable performance indicators, TSTCI recommends that the Commission establish a task force to determine uniform or industry-wide acceptable standards for measuring these performance indicators, as necessary. The task force may also need to determine whether different performance indicators and measurements are required for mobile broadband than for fixed broadband technology. This task force should be composed of knowledgeable industry and Commission representatives with engineering expertise.

II. Form, Characteristics, and Performance Indicators

Comments filed in response to this Public Notice, as expected, express a myriad of different opinions on the form and characteristics that the definition of broadband should encompass. There are those that advocate a single definition or single set of characteristics for the definition[2] and those that believe a single definition does not make sense for all purposes.[3] Some parties believe that the definition should apply uniformly across all technologies[4] and others propose separate definitions or performance indicators for mobile or satellite technologies.[5] Whether or not to include transmission speed in the definition, and if so, which speeds, also engenders much debate. In previously filed comments, TSTCI itself has expressed concern with a broadband definition that depends on specific transmission speeds because particular speeds may not be feasible in some very rural areas of the country. If speeds are included in the broadband definition, TSTCI

[2] Comments of Windstream Communication, Inc., p. 4.; Comments of Google, p. 4; Comments of Sprint Nextel, p.1; National Cable & Telecommunications Association, p.3.
[3] Comments of Verizon, p. 1.; Comments of AT&T, p. 4.
[4] Comments of Windstream Communications, Inc., p. 4
[5] OPASTCO Comments, p. 19; Verizon p.3, Sprint Nextel, p. 8

advocates a minimum threshold speed objective, but not necessarily a required minimum speed in remote high-cost areas.[6]

There were also varying opinions regarding the Commission's question of "whether an application-based approach to defining broadband would work and how such an approach could be expressed in terms of performance indicators." AT&T opined that the Commission has to first define those applications and online capabilities that should be available to all Americans in order to achieve the goals of the Recovery Act; the Commission's current task "is not about defining broadband in the abstract….The definition must comprise services that can practically be deployed in unserved and underserved areas – and must comprise services that today's unserved American can and will actually adopt."[7] AT&T further states that until the Commission defines those minimum applications, specific parameters can't be determined as a requirement or inclusion in the broadband definition.[8]

Covad believes that the "definition of broadband should primarily focus on next-generation applications" and focus "on an application-based approach that is based upon the speeds and service characteristics necessary at a particular point in time to run the most in-demand applications available at that time."[9]

Verizon does not believe that broadband should be defined strictly by reference to the requirements of applications; however, the national objectives set by the Commission

[6] Comments of TSTCI, GN Docket No. 09-51, filed June 8, 2009, p.5.
[7] Comments of AT&T, p. 1-2.
[8] Id. at 6.
[9] Comments of Covad Communications Company, p. 3.

should consider the changing demands on broadband networks and services by new or emerging applications.[10]

With such diversity of opinions, TSTCI appreciates the difficulty the Commission faces in defining broadband. Depending upon the definition or definitions ultimately determined, further complications may arise when trying to determine how to measure performance indicators associated with the definition. If the Commission desires to establish and measure performance indicators, either as part of the broadband definition or a separate requirement or target, TSTCI believes that a task force should be convened to determine uniform or industry-wide acceptable standards for measuring performance indicators, if not already established.

There were several commenters who seem to imply, if not state outright, that a task force might be appropriate. The Organization for the Promotion and Advancement of Small Telephone Companies (OPASTCO) offers to work with the Commission "to explore ways to assess performance indicators of network segments that are currently not feasible to measure," and "to identify and help develop solutions regarding factors that may be challenging to measure, due to variables such as network configuration, topography, network usage at a given moment, backbone choke points, and other considerations."[11] In its argument that the Commission continue to look at maximum advertised speed rather than some measure of "actual" speed, the National Cable & Telecommunications Association (NCTA) states that "it is extremely difficult to develop a single figure that consistently and reliably describes the "actual" speed of all types of broadband connections for all purposes….In the future, the Commission should work

[10] Comments of Verizon, p. 8.
[11] OPASTCO Comments, pp. 17-18.

with the Internet engineering community to develop an approach that would produce consistent, reliable, and accurate results."[12]

Windstream Communications, Inc. (Windstream) argues that the most important performance indicator for defining broadband is the average throughput speed and "to ensure meaningful provider-by-provider and sector-by sector comparisons, the Commission should designate an industry working group of technical experts to develop a detailed, common methodology for measuring average throughput speeds."[13]

When describing its idea that the Commission focus on the end-user experience instead of a performance threshold that focuses only on one element of broadband service such as speed, Sprint Nextel proposes that, "End-user performance would be assessed based on tests conducted by the carrier pursuant to Commission-specified criteria, or by a third-party testing service."[14]

Verizon argues that measuring latency, jitter, and "actual" speeds at a particular point in time, and accounting for these factors in any broadband definition would be impractical, given the complex and constantly changing factors that can influence the outcome. Instead, Verizon states, "…the Commission should encourage industry and other stakeholders to continue to collaborate to develop innovative solutions that address the causes of latency, jitter, and other similar factors that may limit the usefulness of the public Internet for some purposes."[15]

A task force could develop appropriate testing standards collaboratively in ways perhaps similar to organizations such as the International Engineering Task Force (IETF)

[12] NCTA Comments, p. 7.
[13] Comments of Windstream, p. 6.
[14] Comments of Sprint Nextel, p. 8.
[15] Comments of Verizon, p. 11-12.

or the IEEE Standards Association. [16] An example can be seen in the RFC 2544 testing standards established by the IETF as the de facto methodology that outlines the tests required to measure and prove performance criteria for Ethernet networks.[17] Although these testing standards are designed to meet the requirements of enterprise customers' service level agreements (SLA), a Commission task force could investigate testing standards, as appropriate, for various technologies and/or services with the focus on ensuring service quality and customer satisfaction, particularly with the residential and small business customer in mind.

Again, depending upon the Commission's final broadband definition, if necessary this task force could be charged with the responsibility to determine whether different technologies require different performance indicators and measurement standards. It may be necessary to distinguish mobile and fixed broadband services.

Respectfully submitted,

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By: Cammie Hughes
Authorized Representative
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[16] See http://www.ieft.org or http://ieee.org
[17] See http://documents.exfo.com/appnotes/anote183-ang.pdf

TEXAS STATEWIDE TELEPHONE COOPERATIVE, INC.

Alenco Communications, Inc.
Big Bend Telephone Company, Inc.
Brazos Telecommunications, Inc.
Brazos Telephone Coop., Inc.
Cameron Telephone Company
Cap Rock Telephone Coop., Inc.
Central Texas Telephone Coop., Inc.
Coleman County Telephone Coop., Inc.
Colorado Valley Telephone Coop., Inc.
Community Telephone Company, Inc.
Cumby Telephone Coop., Inc.
Dell Telephone Coop., Inc.
E.N.M.R. Telephone Coop., Inc.
Eastex Telephone Coop., Inc.
Electra Telephone Company
Etex Telephone Coop., Inc.
Five Area Telephone Coop., Inc.
Ganado Telephone Company, Inc.
Hill Country Telephone Cooperative, Inc.
Industry Telephone Company, Inc.
La Ward Telephone Exchange, Inc.
Lake Livingston Telephone Company
Lipan Telephone Company, Inc.
Livingston Telephone Company
Mid-Plains Rural Telephone Coop., Inc.
Nortex Communications, Inc.
Panhandle Telephone Coop., Inc.
Peoples Telephone Coop., Inc.
Poka Lambro Telephone Coop., Inc.
Riviera Telephone Company, Inc.
Santa Rosa Telephone Coop., Inc.
South Plains Telephone Coop., Inc.
Tatum Telephone Company
Taylor Telephone Coop., Inc.
Wes-Tex Telephone Coop., Inc.
West Plains Telecommunications, Inc.
West Texas Rural Tel. Coop., Inc.
XIT Rural Telephone Coop., Inc.