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November 14, 2012

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Gregory Hlibok
Chief, Disability Rights Office
Bureau of Consumer and Governmental Affairs
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: *Structure and Practices of the Video Relay Service Program*, CG Docket No. 10-51,
*Telecommunications Relay Services and Speech-to-Speech Services for Individuals with
Hearing and Speech Disabilities*, CG Docket No. 03-123

Dear Ms. Dortch and Mr. Hlibok:

Purple Communications, Inc. hereby submits the attached redacted comments and expert report pursuant to the *Second Protective Order* issued in the above-captioned proceedings on May 31, 2012.

As required by paragraph 12 of the *Second Protective Order*, Purple submits: (a) two copies of the filing in redacted form to the Secretary's Office along with this cover letter. Separately, Purple submits (b) one copy of the filing containing Highly Confidential Information to the Secretary's Office along with a Highly Confidential cover letter; and (c) two copies of the filing containing Highly Confidential Information to Gregory Hlibok along with a Highly Confidential cover letter. We will also file a copy of the redacted version via ECFS.

As required by paragraph 3 of the *Second Protective Order*, we have received written approval from Commission staff for the confidentiality designations in the filing.

Sincerely,

PURPLE COMMUNICATIONS, INC.

John Goodman
Chief Legal Officer

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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of)	
)	
Structure and Practices of the Video Relay)	CG Docket No. 10-51
Service Program; Telecommunications Relay)	
Services and Speech-to-Speech Services for)	
Individuals with Hearing and Speech Disabilities)	CG Docket No. 03-123
)	
To: The Commission)	

**COMMENTS TO PUBLIC NOTICE ON STRUCTURE AND PRACTICES
OF THE VIDEO RELAY SERVICES PROGRAM**

PURPLE COMMUNICATIONS, INC.

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November 14, 2012

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**COMMENTS TO PUBLIC NOTICE ON STRUCTURE AND PRACTICES OF THE
VIDEO RELAY SERVICES PROGRAM**

Purple Communications, Inc. (“Purple”) provides the following comments to the Federal Communications Commission’s (the “Commission’s”) October 15, 2012 Public Notice seeking additional comment on the Structure and Practices of the video relay services (“VRS”) program (the “Notice”).¹

I. EXECUTIVE SUMMARY

The Internet-based Telecommunications Relay Services (“iTRS”) program is more than a government benefit program for deaf and hard-of-hearing Americans; it is a service designed to further their civil rights as mandated by Congress through the Americans with Disabilities Act (the “ADA”).² For this reason, in seeking a framework that enables the VRS program to serve the greatest number of consumers at the lowest possible cost, the Commission must also promote functional equivalence.

Functional equivalence will not be met by selecting a single, or government, sponsored provider that ultimately will provision lower quality service and equipment than a competitive marketplace. Instead, functional equivalence requires that deaf and hard-of-hearing consumers have a choice of service providers, just as hearing consumers do. Indeed, the Commission has reaffirmed the value of consumer choice on numerous occasions: “if TRS users are not able to use their carrier of choice and are forced to select an alternate provider, they may pay rates that are higher than those charged by their preferred carrier, or may not have access to particular

¹ *In the Matter of Structure and Practices of the Video Relay Service Program*, CG Docket No. 10-51, *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, CG Docket No. 03-123, Additional Comment Sought on Structure and Practices of the Video Relay Service (VRS) Program and on Proposed VRS Compensation Rates, DA 12-1644 (Oct. 15, 2012) (*Public Notice*).

² See generally Karen Peltz Strauss, *A New Civil Right: Telecommunications Equality for Deaf and Hard of Hearing Americans* (Gallaudet University Press) (2006).

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services. [B]oth results are inconsistent with the ADA³; “consistent with functional equivalency, all VRS consumers must be able to place a VRS call through any of the VRS providers’ service, and all VRS providers must be able to receive calls from, and make calls to, any VRS consumer⁴; “[b]ecause local numbers are readily portable and toll free numbers are not, the automatic issuance of personal toll free numbers limits user choice and reduces competition, raising concerns about functional equivalency.”⁵

The Commission also has long recognized that a competitive marketplace best facilitates consumer choice and thus the functional equivalence mandated by Congress. Put simply, consumer choice requires provider differentiation through characteristics like interpreter quality, products and software. The design and implementation of the iTRS program’s tiered-rate structure, in particular, illustrates the Commission’s acknowledgement of the value of competition:

These tiers are intended to reflect likely cost differentials between small providers (including new entrants); mid-level providers who are established but who do not hold a dominant market share; and large, dominant providers who are in the best position to achieve cost synergies. . . . We therefore believe that using three tiers is appropriate to ensure both that, *in furtherance of promoting competition*, the newer providers will cover their costs, and the larger and more established providers are not overcompensated due to economies of scale.⁶

³ *In the Matter of Telecommunication Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*; CC Docket No. 98-67; *Americans With Disabilities Act of 1990*, CG Docket No. 03-123, Second Report and Order, Order on Reconsideration, and Notice of Proposed Rulemaking, 18 FCC Red 12379, ¶ 54 (Jun. 17, 2003) (citing 47 U.S.C. § 225).

⁴ *In the Matter of Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, CG Docket No. 03-123, Declaratory Ruling and Further Notice of Proposed Rulemaking, 21 FCC Red 5442, ¶ 34 (May 9, 2009).

⁵ *In the Matters of Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, CG Docket No. 03-123, *E911 Requirements for IP-Enabled Service Providers*, WC Docket No. 05-196, *Internet-Based Telecommunications Relay Service Numbering*, WC Docket No. 10-191, Notice of Proposed Rulemaking, 25 FCC Red 13767, ¶ 13 (Sep. 17, 2010).

⁶ See *In the Matter of Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, CG Docket No. 03-123, Report and Order and Declaratory Ruling, 22 FCC Red 20140, ¶¶ 46-47, 52-54 (Nov. 19, 2007) (*2007 TRS Rate Methodology Order*); see also *In the Matter of*

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The Commission has additionally concluded that “the adoption of the [tiered] VRS rates . . . [are] consistent with its obligations under Title IV of the ADA, codified as *section 225* of the Communications Act. . . . [A]nd furthermore reflect full awareness of the Commission’s obligations under *section 225* and a commitment to further the goals of functional equivalency through strengthening and sustaining VRS.”⁷

Now is not the time for the Commission to abandon the progress it has made towards an industry model that promotes competition, unless it is prepared to abandon its commitment to consumer choice and functional equivalence, a cornerstone of the ADA. With the release of the Notice, the Commission appears to seek final comment on a slate of questions aimed at disaggregating the components of VRS. Complete or significant disaggregation amounts to reform that will impair competition, restrict consumer choice, and threaten functional equivalence. Accordingly, Purple makes the following policy proposals further detailed in sections II and III, below:

- Disaggregation of the VRS industry will reduce competition, innovation, and consumer choice, thereby reducing quality of service and jeopardizing functional equivalence;
 - Development and implementation of technical standards are a more efficient and appropriate means of enhancing interoperability, portability, and quality of service and are more efficient and practical than a single application to be used on off-the-shelf hardware;

Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities, CG Docket No. 03-123, Order, 25 FCC Rcd 8689, ¶ 17 (Jun. 28, 2010) (*2010 TRS Rate Order*).

⁷ *2010 TRS Rate Order* at ¶¶ 18, 20.

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- Enhanced iTRS database features should be limited to third-party registration and verification functionalities that provide industry-wide protections for providers and consumers and should not interfere with functions that allow for innovation and distinction in the marketplace;
- Adoption of a weighted average cost formula for the determination of VRS rates is fundamentally flawed and must be rejected because it will result in a VRS market dominated by one VRS provider with little consumer choice, innovation and service quality;
 - As an alternative to a weighted average cost formula, the Commission should adopt transitional tiered rates as a bridge to a long-term unitary rate with a price cap designed to promote stability; and
 - VRS rates must take into account outreach, marketing, and research and development costs in addition to a reasonable return to investors to continue to attract capital to the VRS market.

Purple believes the policy proposals highlighted in this filing can preserve competition and choice for consumers while making the program more financially efficient. These goals are not mutually exclusive.

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II. STRUCTURAL REFORMS TO DISAGGREGATE THE INDUSTRY ARE PROBLEMATIC

A. Multiple Providers Offering Distinct Services That Are Subject To Common Technical Standards Will Ensure Interoperability And Portability And Will Best Serve Consumers.

While Purple supports the use of off-the-shelf hardware equipment in the delivery of VRS to consumers,⁸ Purple opposes migration of all VRS access technologies (“VRS Access Technology”) to a standard application that could be used on commonly available off-the-shelf hardware. First, there are limitations to a standard application and off-the-shelf solution that consumers certainly consider important in their use of VRS. These include features such as integrated light signaling to indicate incoming calls, integrated video mail associated with a phone number, integrated text pre-call instructions with communication assistances (“CAs”), and other call-based user profile settings such as voice carry over (“VCO”).

Moreover, a standard application would leave no room for distinctions among provider services, style and nuance. Consequently, consumers will have fewer bases for exercising personal preference and the choice essential to functional equivalence. Providers also will lose incentive to compete on quality and innovation thereby stifling the competitive marketplace that best facilitates consumer choice. Thus, standard application ultimately sacrifices consumer choice and free-market competition in favor of a one-size-fits-all government-issued baseline service which does not satisfy the functional equivalence mandate of the ADA.

In Question No. 1, the Commission seeks specific comments regarding a process for developing a standard application and/or establishing standards for an application. The

⁸ See, e.g., Comments of Purple Communications, March 8, 2012, CG Dockets 10-51 & 03-123; Reply Comments of Purple Communications, March 30, 2012, CG Dockets 10-51 & 03-123; Purple VRS Program & Policy Recommendations, February 11, 2011, CG Docket 10-51.

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Commission also inquires whether the standard application or key components should be “open source.” While Purple opposes any standard application and off-the-shelf approach, Purple endorses the establishment of clear technical standards to improve consumer choice by better enabling consumers to move easily among providers.⁹ Purple emphasizes that the Commission must enforce these technical standards for the standards to be effective. Purple also points out that clear and stringent technical standards are a far simpler means of establishing the interoperability and portability that is essential to consumer choice than a standard application.

By way of example, Purple believes that one of the most significant barriers to consumer choice and movement among providers is the lack of address book portability across the industry. The Commission could quickly and easily establish a technical standard requiring address book portability. Such a technical standard requires no field implementation and should be among the first of the technical standards adopted by the Commission. If such a technical standard existed and was implemented within 3-6 months from the effective date of such creation by the Commission, then consumers immediately would be free to move their address books to the providers of their choice.

Address book functionality is just one example of how a technical standard could improve interoperability and portability, and thus consumer choice, without the creation of a standard application. Moreover, as set forth in more detail below, Purple believes that if software is designed against clear technical standards and validly tested through a third-party for compatibility and interoperability, then software need not be “open source” as that would quash

⁹ The Commission has acknowledged that “VRS access technology standards may be insufficiently developed, frustrating the program’s technology goals, and potentially resulting in inappropriate lock in of VRS users.” See *In the Matter of Structure and Practices of the Video Relay Service Program*, CG Docket No. 10-51, *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, CG Docket No. 03-123, Further Notice of Proposed Rulemaking, 26 FCC Rcd 17367, ¶ 11 (Dec. 15, 2011) (*December 2011 FNPRM*).

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providers' incentives to innovate and stifle the competitive marketplace that fosters consumer choice and functional equivalence.

In response to Question No. 3 seeking specific comment regarding whether providers should be able to continue to offer their own internally developed applications, Purple states that it strongly believes that providers should be able to continue to offer their own internally developed applications. As a related matter, Purple also supports the implementation of an interoperability testing process. Purple recommends that the Commission first set out a range of technical standards by which VRS Access Technology is measured. Then, Purple endorses the Commission's use of a third-party testing lab¹⁰ that can conduct compatibility and interoperability testing prior to a provider's release of new VRS Access Technology, whether it is software, hardware, or both. Similar to Part 68 testing, providers would pay to have their software tested by a Commission-approved third-party contractor. This costs the Commission little more than the selection of a qualified vendor, improves interoperability, and thus facilitates consumer choice, competition, and functional equivalence.

In addition, the Commission could require that providers create a new identifying "flag" in their call detail records reflecting which version of software or hardware was used to place a call. By way of auditing, any call that was generated by a non-certified application would be ineligible for compensation by Rolka Loube Saltzer Associates LLC (the "TRS Fund Administrator"). This would keep the industry accountable to a set of technical standards and would provide the Commission with the assurance that VRS Access Technology met the technical standards adopted by the Commission to ensure interoperability and portability.

¹⁰ See Comments of Purple Communications, March 8, 2012, CG Dockets 10-51 & 03-123.

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While Purple previously has provided recommendations regarding off-the-shelf hardware,¹¹ Purple declines to offer specific comments in response to Question Nos. 2, 4, 5, 6, and 7 as they ultimately relate to the details of a premise with which Purple has expressed its disagreement, as stated above. Indeed, Purple notes that the technical support and troubleshooting issues relating to a standard application and off-the-shelf equipment and raised by the Commission in Question No. 7 lend further support to Purple's position opposing this approach.

Finally, in Question Nos. 8, 9 and 10, the Commission seeks specific comments regarding the process for selection of a standard application, transition to a new VRS system, and the necessity of changes to the Commission's rules. In response to Question Nos. 8, 9 and 10, Purple reiterates its concern that the Commission's efforts to further reform the industry may actually set back the progress that has been made in clarifying industry expectations and establishing a more competitive marketplace to support the consumer choice that promotes functional equivalence. The necessity of inventing a process for the selection of a standard application is just the beginning of a Pandora's Box of bureaucracy, clarifications and new rulemaking that a re-invented VRS industry would require.

For these and the reasons set forth above, Purple opposes a standard application and off-the-shelf hardware solution.

¹¹ *See id.*

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B. Enhanced iTRS Database Operations Should Serve Only A Limited Role.

Purple supports the use of a third-party vendor for certain functions that secure the service for use only by the deaf and hard-of-hearing. Purple believes that this limited third-party function will advance audits by the TRS Fund Administrator by improving transparency and assisting inquiries regarding anomalous call patterns. However, Purple does not endorse any industry structure that would, in effect, separate the video communication service component of VRS from the ASL relay CA service component by providing the functions of the former from an enhanced iTRS database. As explained below, Purple believes that the disaggregation of the VRS industry will threaten the competition that is integral to consumer choice and thus functional equivalence, while unwinding many improvements that the Commission has made to the industry since 2010.

Accordingly, in response to Question No. 1, Purple supports the use of a third-party vendor, such as Experian, for the express purposes of user identification and verification as part of a third-party managed registration process for VRS. This function provides independent protection to the industry, the TRS Fund and providers. Purple does not support the use of an enhanced iTRS database for development and distribution of VRS Access Technology, usage accounting, call routing or other value-added features. These functions support marketplace differentiation, innovation and competition, and thus consumer choice, and should be maintained by providers. Instead, as noted in Section II(A) above, Purple believes that stringent technical standards that are enforced by the Commission provide a simpler and more efficient solution to concerns about these functionalities and their impact on the interoperability and portability that supports consumer choice.

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In response to Question No. 2, Purple offers the following recommendations regarding the interface between a registration and verification vendor and the industry. Purple proposes that a registration and verification vendor would work closely with the Commission's iTRS numbering administrator to ensure that every 10-digit number issued was related to an eligible and verified consumer. The third-party vendor should independently analyze and verify the name, address, and eligibility of all registrants. Utilization of a third-party for this purpose ensures the integrity of the VRS program and the TRS Fund and allows providers to focus on quality of service and not the policing of illegitimate use, which compromises functional equivalence.

In Question Nos. 3 and 4, the Commission seeks comment regarding the necessity of multiple video communication service providers and changes to the Commission's rules. Purple believes that the issues raised by these questions simply confirm the logistical difficulties that such a system will pose to providers, consumers, and the Commission. The disaggregation of VRS among component vendors likely will reduce quality and innovation because no single provider will be accountable for a particular customer's experience. This approach likely will create a technical support nightmare for consumers—who should a consumer file a complaint against if they have difficulties connecting to VRS? The universal software company? The TRS Fund Administrator? The interpreting services provider? In addition to consumer confusion, additional vendors undoubtedly will create additional bureaucracy and, possibly, additional costs for a lower quality service.

If the Commission ultimately seeks to disaggregate VRS among a series of component vendors each operating under contract with the Commission, perhaps the Commission should consider simply issuing a request for proposal to operate the VRS program under a single

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vendor. Whether the Commission contracts with a series of component vendors or utilizes a single vendor with a monopolistic contract, marketplace competition, the innovation and quality that support consumer choice, and functional equivalence will be lost. Purple strongly opposes these approaches, which contravene the Commission’s own stated objectives, as well as the letter and spirit of the ADA.¹²

For these and the reasons set forth above, Purple discourages the Commission from adopting an enhanced iTRS database for any function beyond registration and verification and from separating the video communication service component of VRS from the ASL relay CA service component.

III. VRS RATES SHOULD BE FAIR, PREDICTABLE AND ALLOW FOR REASONABLE PROFITABILITY

For the purposes of responding to the Notice, Purple has retained the services of telecommunications expert Steven E. Turner. Mr. Turner is a managing director at FTI Consulting, an independent third party consulting firm (“FTI”), and is responsible for the telecommunications practice in FTI’s Network Industry Strategies group. Mr. Turner has held a variety of research, engineering, operations, and management positions in the telecommunications industry, including at AT&T. Among many other areas, Mr. Turner has expertise in network component costs, call center operations, and cost management.

¹² As the Commission has previously stated:

Our overarching goal in this proceeding is to improve the VRS program so that it better promotes the goals Congress established in section 225 of the Act. Specifically, we seek to ensure that VRS is available to all eligible users, is provided efficiently, offers functional equivalence, and is as immune as possible to the waste, fraud, and abuse that threaten its long-term viability. We note that this is largely consistent with the goals outlined in the recent Consumer Groups’ TRS Policy Statement, and that we seek to reform VRS in accordance with these goals to the extent possible.

December 2011 FNPRM at ¶ 11.

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Purple has asked Mr. Turner to evaluate the TRS Fund Administrator’s rate proposal filed on October 15, 2012,¹³ based on publicly available information. As Mr. Turner details in his expert report attached hereto as Addendum A (the “FTI Report”),¹⁴ contrary to providing fair and predictable rates and reasonable profits, the TRS Fund Administrator’s rate proposal will have the effect of decreasing rates for non-dominant VRS providers to such an extent that they will be forced out of business, and, as a result, undermine the Commission’s goal of increasing competition in the VRS industry to facilitate consumer choice and promote functional equivalence.

A. The TRS Fund Administrator’s Rate Proposal, Based On Weighted Average Cost, Is Fundamentally Flawed And Must Be Rejected.

The Commission should categorically reject the TRS Fund Administrator’s weighted average VRS rate formulation because it is based on flawed assumptions and will have a negative impact on service quality and competition, and ultimately consumer choice and functional equivalence.

First, the TRS Fund Administrator’s weighted average approach does not fully take into account the fact that VRS costs are volume-sensitive and that the VRS industry is characterized by significant economies of scale, which means that the dominant VRS provider benefits the most if the Commission were to adopt a single, industry-wide target compensation rate while smaller VRS providers suffer due to lower volumes.¹⁵ Indeed, the Commission itself has

¹³ Rolka Loube Saltzer Associates LLC, *Supplemental Filing of the Telecommunications Relay Services Administrator Regarding Reasonable Rates for VRS Services*, CG Docket Nos. 03-123 and 10-51 (Oct. 15, 2012).

¹⁴ Hereinafter cited as *FTI Report*.

¹⁵ *Id.* at ¶¶ 10-25.

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previously rejected applying a single weighted average rate to all VRS providers precisely because of this fundamental structure of the VRS industry and the need for tiered rates:

[W]e will no longer apply a single weighted average rate to all providers. Instead we will adopt tiered rates based on the monthly minutes of use provided. . . . We believe that doing so may more appropriately reflect the financial situation of all providers. [T]hese providers are not similarly situated with respect to their market share and their costs of providing service. For several years now, one provider has a dominant market share, and thus this individual provider’s projected minutes and costs largely determine the rate. The record reflects, however, that providers with a relatively small number of minutes generally have higher per-minute costs. . . .¹⁶

Additionally, the TRS Fund Administrator’s weighted average approach is based in part on the premise that VRS is a declining cost industry—a premise that is not accurate even when including a productivity factor.¹⁷ By adopting the TRS Fund Administrator’s rate proposal, the Commission will exacerbate the market dominance of Sorenson to the detriment of all VRS participants, compromising consumer choice, and threatening functional equivalence.

*****BEGIN HIGHLY CONFIDENTIAL INFORMATION*****

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¹⁶ 2007 TRS Rate Methodology Order at ¶¶ 47, 52-54 (internal citations omitted); see also 2010 TRS Rate Order at ¶ 17 (“[W]e find that the current tier structure remains a workable, reliable to [sic] way to account for the different costs incurred by carriers based on their size and volume of TRS minutes relayed. The rationale for adopting the tiers in the 2007 TRS Rate Methodology Order remains applicable; that is, providers with a relatively small number of minutes generally have higher costs.”).

¹⁷ FTI Report at ¶¶ 48-53.

[REDACTED]

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END HIGHLY CONFIDENTIAL INFORMATION

If the Commission wants to preserve the intent of the VRS reform process to ensure that VRS is “effective, efficient, and sustainable for the future,”¹⁸ then the Commission will reject the TRS Fund Administrator’s rate proposal and adopt a way forward that both promotes competition and is financially prudent. As stated in the FTI Report, the single most important issue before the Commission is whether to pursue a compensation regime that will promote a VRS market with multiple providers (and reap the benefits of competition) or promote a VRS market that will yield the lowest short-term cost (but lose the benefits of a competitive market). This single decision will drive much of the Commission’s decision-making,¹⁹ and implicates not only the cost of the VRS program, but the civil rights of deaf and hard-of-hearing Americans.

B. As An Alternative To The TRS Fund Administrator’s Rate Proposal, The Commission Should Adopt Tiered Rates As A Bridge To A Long-Term Unitary Rate.

As demonstrated in the FTI Report and made clear in prior filings by Purple,²⁰ VRS providers operating with higher volume have lower costs due to efficiencies. For smaller providers the pathway to greater volume is a marketplace that operates under a set of stringent technology standards that ensure interoperability and portability. Under such a structure, consumers can freely move from provider to provider with their relevant calling information,

¹⁸ *December 2011 FNPRM* at ¶ 1.

¹⁹ *FTI Report* at ¶ 61.

²⁰ *See Purple VRS Program & Policy Recommendations*, February 11, 2011, Purple Comments CG Dockets No. 10-51 & 03-123, March 8, 2012, and Purple Reply Comments CG Dockets No. 10-51 & 03-123, March 30, 2012.

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such as address books, and exercise the choice that is essential to functional equivalence.

Purple believes the Commission must first adopt and enforce clear technology standards that will facilitate interoperability and portability, thereby increasing competition and consumer choice. During this time period that technical standards are under development and implementation, size disparities among providers will persist as will cost disparities as evidenced in this filing. To accommodate for this economic reality, Purple proposes that the Commission preserve a tiered rate structure on a purely transitional basis. Purple has previously submitted a detailed proposal outlining how expanding the thresholds of the tiers and lowering rates could result in cost savings to the VRS program while enabling smaller providers to “climb the scale curve”²¹ following the implementation of industry-wide technology standards to increase interoperability and portability.

Based on the Notice and the TRS Fund Administrator’s filing, Purple offers an updated approach to a three-tiered model that will enable VRS providers to gain additional market share during a period of limited duration with a known end date before conversion to a unitary rate compensation model. The rates and tiers proposed by Purple as a transitional rate structure are as follows:

²¹ Purple’s Notice of *Ex Parte* Conference, CG Dockets No. 03-123 & 10-51, April 19, 2012.

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Tier	Minutes Per Month	Reimbursement Rate Per Minute
Tier 1	0 – 500,000	\$5.92 <i>A 5% reduction from the current Tier-1 rate</i>
Tier 2	500,000 – 2,000,000	\$4.82 <i>A 5% reduction from the current Tier-3 rate</i>
Tier 3	More than 2,000,000	\$4.10 <i>A 15% reduction from the new Tier-2 rate</i>

The application of this rate structure will save the iTRS Program more than \$70 million annually²² and still allow smaller VRS providers the ability to innovate and compete with the full understanding that the tiered system eventually will be eliminated in favor of a long term unitary rate.

C. Following The Transitional Tiered Rate Structure, The Commission Should Adopt A Unitary, Three Year Price Cap Approach To Promote Stability.

Once technology standards are implemented to provide for interoperability and portability, and a more openly competitive market is established, Purple recommends that the Commission adopt the lowest rate paid under the transitional tiered plan as the starting rate for a new three year unitary rate period. This new starting rate would be paid to all providers and adjusted annually for efficiency. Again, the stability that predictable rates would bring to the market would further innovation, efficiency and competition and thus consumer choice.

The rates for VRS should be regulated by price cap methodology. As previously stated in Purple’s August 18, 2010 Comments on Notice of Inquiry,²³ the stability provided by the price cap would optimize the incentives for VRS providers to lower costs and engage in long-term planning and investment in their VRS businesses thereby facilitating great competition and

²² See Attached Exhibit 1 for detailed analysis of savings and estimated reimbursement rates by provider.

²³ See Comments on Notice of Inquiry by Purple, CG Docket No. 10-51, at 10 (Aug. 18, 2010).

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consumer choice. Under a price cap system, rates would remain steady, subject to standard adjustment factors based on well-established and objective indexes. Moreover, a price cap structure motivates providers to operate efficiently because providers obtain the benefits of those cost reductions until rates are reset.²⁴ When providers succeed in decreasing costs and increasing efficiency, the resulting surplus of funds can be invested in innovations and improved services for consumers.

D. Inclusion Of Outreach, Marketing, And Research And Development Costs Is Absolutely Necessary, As Is A Reasonable Return To Investors.

If lower costs are derived through more than one VRS provider operating at scale, and the best way for smaller VRS providers to grow is through innovation once technology standards are uniformly enforced, then it would be counterproductive for the Commission to exclude the costs of outreach, marketing, and research and development from the very firms that need to grow in order to achieve a market structure that can support lower rates and the consumer choice essential to functional equivalence. Properly constructed, the transitional tiered rate structure could be designed to ensure each VRS provider is paid equitably for outreach, marketing, and research and development. For example, one approach is that outreach, marketing, and research and development are paid on a per minute basis up to the first 2 million minutes per month for each provider. For minutes above 2 million, the reimbursement rate would be lowered and not include any allocation for these items. An approach like this incentivizes and funds the innovation of the smaller VRS providers without giving the dominant VRS provider an undue marketing, outreach, or research and development windfall from which it can continue to fund its dominant position, a position that threatens consumer choice and functional equivalence.

²⁴ See *Policy and Rules Concerning Rates for Dominant Carriers*, CC Docket No. 87-313, Second Report and Order, 5 FCC Red 6786, 6787 (Oct. 4, 1990).

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With respect to the amount of capital costs that are allowed to be recovered, and as the FTI Report states, a traditional rate of return investment analysis approach is not a suitable option for VRS, which is a labor-intensive industry.²⁵ Instead, as the FTI Report points out, there are a “number of ways that the Commission can properly regulate the VRS market while achieving its public policy objectives. However, in doing so, it is essential that the Commission look toward an approach that continues to foster innovation and competition,”²⁶ and that provides a return on investors’ money. Indeed, it is important that the Commission not dismiss the benefits to the marketplace and consumers of providing a reasonable return on investor money. If the VRS industry becomes entirely unattractive to investors, innovation and competition will substantially decline.²⁷ The Commission should follow the guidelines for the valuation of enterprises, which is based on earnings and discounted cash flow analysis.²⁸ As suggested in the FTI Report, earnings require a policy structure that rewards competition and efficient operations and allows for reasonable profitability, all of which may be established based on industry proxies.²⁹

²⁵ *FTI Report* at ¶ 56.

²⁶ *Id.* at ¶ 59.

²⁷ *Id.* at ¶¶ 58-61.

²⁸ *Id.* at ¶ 58.

²⁹ *Id.* at ¶¶ 58-59.

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E. In Light Of The Above, Purple Proposes A Three-Phase Implementation Timetable For VRS Reform.

Purple offers the following three-phase implementation schedule for VRS reform:

Phase	Phase Description
Phase 1	During Phase 1, which would last for 12-months from the effective date of the FCC’s Order, technical standards would be developed and implemented for the centralized registration and verification, device interoperability, portability and the third party testing of VRS Access Technology. Rates during this period would be the transitional tiered rate structure.
Phase 2	During Phase 2, the technical standards would be implemented and enforced across the industry. Consumers would have new flexibility to choose providers and move their information from one provider to the other. This Phase would last for no more than 36-months and could last for less time if at least two other providers were operating with at least [20%] market share which would reflect the achievement of scale and serve as a trigger by which unitary rates could be applied industry wide. In any case, at the end of 36-months, regardless of market share re-allocation, all providers regardless of size would be paid a unitary rate. This provides the Commission and providers with a known “end date” to any notion of small provider subsidization.
Phase 3	During Phase 3, a new three-year, unitary rate would be implemented for all providers regardless of size and would be evaluated annually under a price cap efficiency factor calculation.

IV. CONCLUSION

The mandate of the ADA is not met by a VRS program supported by a single provider devoid of incentives to innovate, preserve quality, and create the consumer choice that fosters functional equivalence. The Commission has always sought to promote innovation, quality and competition, because those factors increase consumer choice and functional equivalence. The Commission should not abandon these policies. Efficient cost structures should not come at the cost of creating a monopoly that provides a base-line standardized service. The recommendations offered herein harmonize the Commission’s policy objectives of competition,

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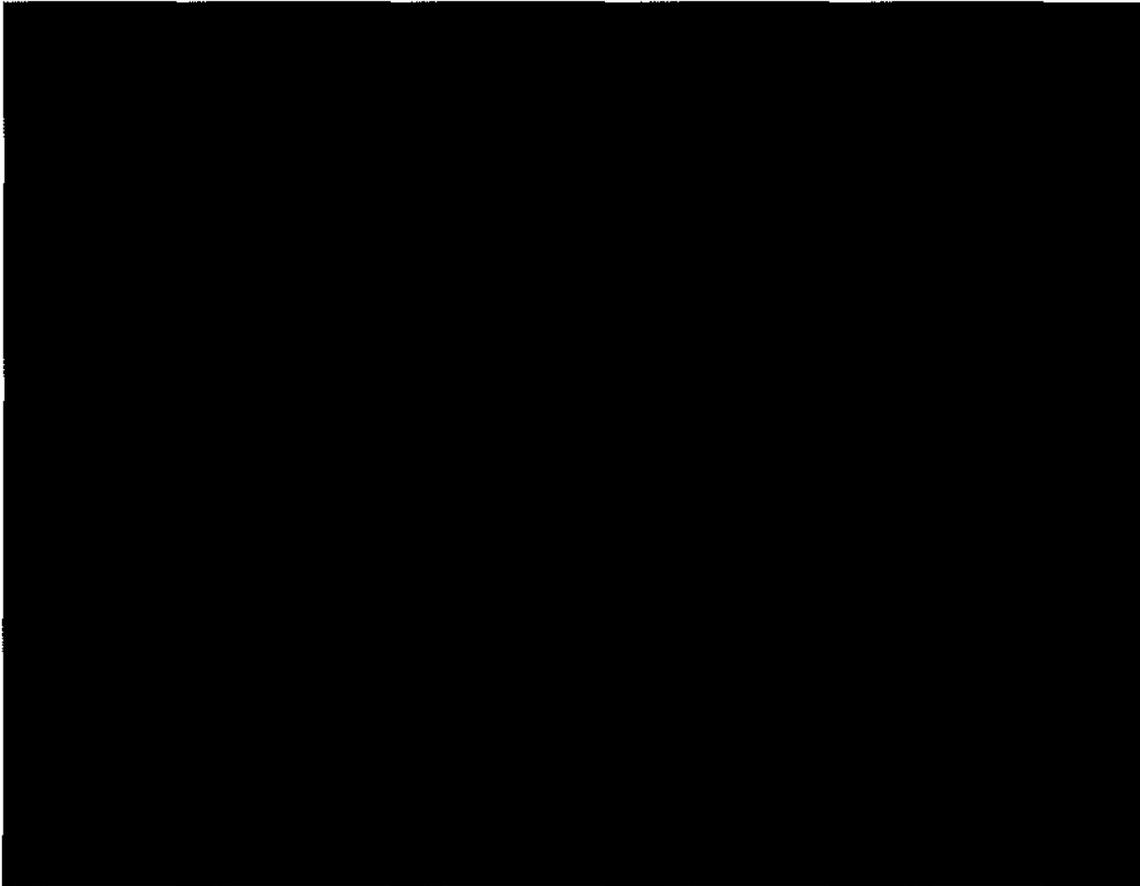
consumer choice, and functional equivalence while ensuring that the VRS program is “effective, efficient, and sustainable” into the future.

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EXHIBIT 1

Reimbursement Rate Analysis

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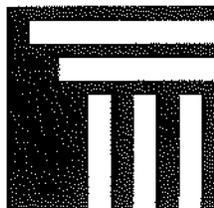
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ADDENDUM A

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**REPORT OF
STEVEN E. TURNER**

November 14, 2012



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I. INTRODUCTION

A. Qualifications

1. I am a Managing Director at FTI Consulting responsible for the telecommunications practice in the Network Industry Strategies group. I hold a Bachelor of Science degree in Electrical Engineering from Auburn University in Auburn, Alabama. I also hold a Masters of Business Administration in Finance from Georgia State University in Atlanta, Georgia.

2. From 1986 through 1987, I was a Research Engineer for General Electric in its Advanced Technologies Department developing high-speed graphics simulators. In 1987, I joined AT&T and, during my career there, held a variety of engineering, operations, and management positions. These positions covered the switching, transport, and signaling disciplines within AT&T. From 1995 until 1997, I worked in the Local Infrastructure and Access Management organization within AT&T. In this organization, I gained familiarity with many of the regulatory issues surrounding AT&T's local market entry, including issues concerning the unbundling of incumbent local exchange company ("incumbent" or "ILEC") networks. I participated on the AT&T team that negotiated with Southwestern Bell Telephone Company concerning unbundled network element definitions and methods of interconnection.

3. From 1997 to 2006 I was President of my own consulting firm, Kaleo Consulting. Kaleo Consulting was a boutique consulting firm specializing in providing expert testimony in technical and financial areas related to telecommunications. My projects involved issues related to contractual terms and conditions between telecommunications service providers, the costs for network elements including interoffice transport, collocation, loops (media used to connect to

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customer premises), switching, signaling, and other related areas. My consulting assignments also included the responsibility of negotiating interconnection agreement terms and conditions between new entrants and incumbents or negotiating settlements with numerous companies including AT&T and Verizon. To the extent that these contracts required the inclusion of rates for telecommunications services, I developed and/or evaluated numerous models pertaining to the development of network component costs. Finally, my firm provided strategic consulting services to companies regarding where and how to enter various telecommunications markets. Within the same period, from 1998-1999, I also co-founded and served as President for ALT Communications, a Competitive Local Exchange Company (CLEC) in Texas. In December 2006, I moved to FTI Consulting as a Managing Director and continue to provide consulting services in the telecommunications industry.

4. As part of my consulting practice, I have developed a deep knowledge base regarding regulatory requirements within the telecommunications industry and have provided expert testimony on telecommunications regulation in most states within the United States, before the Federal Communications Commission (FCC) on many occasions, and before the Canadian Radio and Television Commission (CRTC). I have also provided expert testimony in federal court proceedings involving the regulation of telecommunications carriers.

5. Of particular relevance to this present report, I have also had extensive experience in managing a large call center while at AT&T. While the call center was not responsible for serving the hearing impaired, the issues involved with the management of call center personnel, staffing for variations in demand, utilization levels and other common issues for call centers are

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part of my direct experience. Moreover, I continue to advise clients on call center operations and cost management approaches.

6. A copy of my curriculum vitae is attached to this report.

B. Overview

7. I have been asked by Purple Communications, Inc. (Purple) to provide my expert opinion regarding the issues raised in the October 15, 2012 *FCC Public Notice*¹ seeking additional comment on proposed video relay services (“VRS”) compensation rates. Specifically, I provide my opinion, and support of such opinion, on the “rate structure, proposed rates, and cost calculations, including its weighting of individual providers’ costs”² proposed in the *Fund Administrator Supplemental Filing*³ by Rolka Loubé Saltzer Associates (“*RLSA Proposal*”). In addition, I provide my opinion and associated support on the five “Open Ratemaking Issues” identified in the *FCC Public Notice*.

8. As I detail below, the proposals in the Fund Administrator Supplemental Filing will serve to decrease rates for non-dominant carriers to such an extent that they will be forced out of business and, as a result, undermine the Commission’s goal of increasing competition in the VRS industry. I base this conclusion on the following key factors:

All evidence supports the fact that VRS costs are volume-sensitive with each and every *independent* data point pointing to the same conclusion;

¹ FCC Public Notice, *Additional Comment Sought on Structure and Practices of the Video Relay Service (VRS) Program and on Proposed VRS Compensation Rates*, DA 12-1644, Released October 15, 2012 (“*FCC Public Notice*”).

² *Id.*, Section II.A.

³ Supplemental Filing of the Telecommunications Relay Services Administrator Regarding Reasonable Rates for VRS Service, Rolka Loubé Saltzer Associates, CG Docket Nos. 03-123 & 10-51, October 15, 2012 (“*RLSA Proposal*”).

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The largest VRS provider is benefitting from the largest reduction in costs due to historical double-digit industry growth rates;

There appears to be a premise that VRS is a declining cost industry, a premise that is not accurate, even when including a productivity factor;

A single, industry-wide target compensation rate will perpetuate and exacerbate the market dominance of Sorcnson, to the detriment of competition and consumers;

The Commission must compensate VRS providers in a manner that allows them to recover their costs as well as provide a return to their investors; and

A traditional rate of return regime is not applicable to the VRS industry, and the Commission would be best served by targeting return components that best mimic the incentives in a competitive marketplace.

9. Therefore, based on my evaluation and the conclusions reached above, the FCC should not implement the Fund administrator's recommendations as outlined in the *RLSA Proposal*.

II. PROBLEMS WITH THE FUND ADMINISTRATOR'S RECOMMENDATIONS

A. The Commission's Previous Orders Have Shown That VRS Costs Are Volume Sensitive.

10. In its *2007 TRS Rate Methodology Order*, the Commission determined that, "[i]n light of these different per-minute costs, we conclude that we will adopt tiered VRS

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compensation rates based upon call volume.”⁴ In that Order, the Commission reviewed “the providers’ more recently filed actual (or annualized actual) costs and minutes of use contained in their cost data submission for the 2007-2008 Fund year”⁵ and determined that “providers that handle a relatively small amount of minutes ... have relatively higher per-minute costs ... [and] ... providers that handle a larger number of minutes ... have lower per-minute costs.”⁶ This also led to “some VRS providers ... receiv[ing] compensation significantly in excess of their actual costs”⁷ and that in 2006 some “VRS providers’ actual cost of providing service ... was \$4.5568 per-minute – almost one-third less than the rate paid of \$6.644 per-minute.”⁸ Based on this information, the Commission “base[d] the VRS rate on the providers’ projected cost and minutes of use.”⁹ In short, the Commission unambiguously determined that a VRS provider’s cost is subject to economies of scale and that “dominant providers ... are in the best position to achieve cost synergies.”¹⁰

11. Then, in the *2010 TRS Rate Order*,¹¹ the Commission determined that “[t]he rationale for adopting the tiers in the *2007 TRS Rate Methodology Order* remains applicable; that is, providers with a relatively small number of minutes generally have higher costs.”¹² Further,

⁴ *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, CG Docket No. 03-123, Report and Order and Declaratory Ruling, November 19, 2007, ¶ 48 (“*2007 TRS Rate Methodology Order*”).

⁵ *Id.*, at fn. 143.

⁶ *Id.*, at ¶ 54.

⁷ *Id.*, at ¶ 48.

⁸ *Id.*, at fn. 144.

⁹ *Id.*, at ¶ 47.

¹⁰ *Id.*, at ¶ 53.

¹¹ *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, CG Docket No. 03-123, Order, June 28, 2010 (“*2010 TRS Rate Order*”).

¹² *Id.*, at ¶ 17.

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the Commission presented NECA’s proposed rates by tier, which were based on 2009 “actual, historical costs,”¹³ after accounting for working capital allowances and expense increases.

Comparing the Commission adopted cost-based rates in the *2007 TRS Rate Methodology* and those in the *2010 TRS Rate Order*, reveals that the underlying costs decreased, resulting in rate decreases by 13.7% in Tier 1, by 6.2% in Tier 2 and by 37.5% in Tier 3.¹⁴ In short, that highest volume tier, Tier 3, experienced substantially greater cost-based rate declines than either of the other two tiers.

12. Thus, not only has the Commission determined, through actual data provided by the VRS providers, that those providers with greater volumes tend to have the lowest unit costs, the Commission data has shown that the carriers with the largest volumes continue to experience significant economies of scale as those volumes increase. And, while the volume increase in Tier 1 and Tier 2 are, by definition, limited due to the upper bound in those tiers, Tier 3 has no limit on the potential volume increase. Specifically, the maximum possible volume increase in Tier 1 is 49,999 minutes, the maximum possible volume increase in Tier 2 is 449,999, but there is no limit on the potential volume increase in Tier 3. Indeed, Sorenson experienced increases in the tens of millions of minutes between 2006 and 2009.¹⁵

13. To be clear, VRS costs are sensitive to overall increases in volume. By way of example, consider a carrier with 250,000 monthly minutes and a carrier with 2,500,000 monthly minutes (i.e., one carrier is ten times larger than the other). While carriers may experience an

¹³ *Id.*, at ¶ 6.

¹⁴ *Id.*, at Table 1.

¹⁵ Overall industry volume increased from about 44 million minutes in 2006 to about 99 million minutes in 2009. Given that today Purple and CSDVRS, the second and third largest providers, account for less than 20 million minutes, at least 30 million of those minutes are likely to be growth in Sorenson’s overall volume.

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increase in minutes by 50%, the first carrier would only gain 125,000 minutes while the second carrier would gain 1,250,000 minutes (again, ten times as many minutes). As a result, it is the second, larger carrier that would experience the greatest improvements in its economics of scale. The point here is that the economics of scale relate to overall volumes in terms of minutes and not percentage increases (or growth) in a particular company's minutes.

14. Thus, it is not surprising that Tier 3 experienced a 37.5% reduction in the cost-based reimbursement rate between 2007 and 2010 while Tier 1 and Tier 2 carriers experienced only a 13.7% and 6.2% reduction in costs, respectively. And, during this period, only Purple and Sorenson were considered Tier 3 providers capable of garnering more than 449,999 minutes of growth per month. All told, Sorenson experienced the vast majority of the total industry minute growth during this period. As such, it is easy to explain why Sorenson had such a significant decrease in its per-minute costs.

15. In short, not only has the Commission verified that there are significant economies of scale in the provision of VRS services through actual point-in-time data provided by the VRS providers, the Commission data also shows that the largest providers experienced significant economies of scale over time as total market volumes increase.

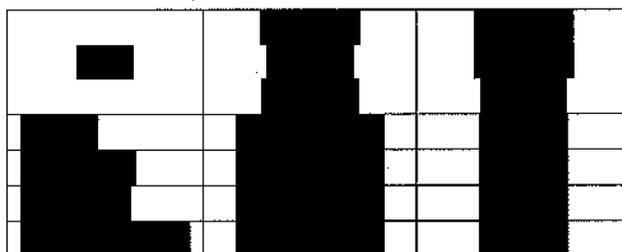
B. Recent Information Underscores The Fact That The VRS Industry Is Characterized By Significant Economies Of Scale.

16. The *RLSA Proposal* similarly provides information that can be used to estimate the change in costs experienced by the VRS providers from 2010 to 2012. Specifically, the *RLSA Proposal* determined that the “weighted average cost is \$3.396 (including accounting for

the federal corporate income tax liability).”¹⁶ At this time, three VRS providers dominate the total industry minutes, Sorenson, Purple and CSDVRS. Therefore, if one knows the three-year weighted average costs and volumes for Purple and CSDVRS, it is relatively straight-forward to back into Sorenson’s weighted average cost and minutes. The following table summarizes this data:

Figure 1: Volume and Average Cost per Minute Comparison¹⁷

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17. As can be seen from the above table, Purple CSDVRS and Sorenson each have minute volume exceeding 500,000 minutes per month, making them Tier 3 providers. Yet, Sorenson is approximately five times the size of Purple and CSDVRS *combined*. As the Commission recognizes, “one provider has a dominant market share, and thus this individual

¹⁶ *RLSA Proposal* at pg. 5.

¹⁷ The total industry data comes directly from the *RLSA Proposal*. Of the industry, Sorenson, Purple and CSDVRS comprise the vast majority of minutes. This analysis conservatively assumes that these are the only three providers in the industry. If data for the other, much smaller providers were available, they would have substantially higher costs than Sorenson. Thus, by including the minutes and costs of the smaller VRS provider’s in the Sorenson category, this analysis results in conservatively high per-minute costs for Sorenson. Of course, RLSA and the FCC can easily review the underlying cost information by carrier to validate these positions. All data reflects a three-year weighted-average of the data relied upon RLSA (actual 2010 and 2011 data with projected 2012 data).

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dominant provider having approximately 7,000,000 per month (again, about ten times the size as the second and third largest providers in the industry).

20. During its September 13, 2012 ex parte conference with the Commission,²⁴ Purple presented an analysis showing, based on its own underlying cost data, the economies of scale associated with larger call volumes. At that time, Purple did not have the information subsequently provided in the *RLSA Proposal* to validate its positions, but that information is now available. In short, the Commission has received both the Purple analysis showing anticipated economies of scale at different projected volume levels as well as specific quantitative data from multiple carriers that undoubtedly prove additional economies of scale even within the previously defined “large, dominant providers” category, which was initially set at any volumes exceeding 500,000 minutes per month.

21. There are numerous reasons for the significant economies of scale above 500,000 minutes per month, and, in fact, the potential for economies of scale above 500,000 are even greater than those for companies within Tier 1 or within Tier 2. These economies come from a variety of areas including, but not limited to: (1) significant efficiencies in general and administrative costs (indirect costs), and (2) efficiencies in relay center costs.

22. Every data point suggests that general and administrative costs are the single most significant cost reduction as volumes increase. In particular:

The *RLSA Proposal* shows that total industry per-minute indirect costs dropped 11.3% between 2010 and 2012, as volumes increased by 8.7%. This reduction of about \$0.074 per minute accounted for about one-half of the total

²⁴ Notice of *Ex Parte* Conference, Purple Communications, Inc., September 18, 2012 (“*Purple Ex Parte Filing*”). This filing included a presentation, the last slide of which was not included in the filing since it contains Highly Confidential Information falling under the *Second Protective Order*.

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provider's projected minutes and costs largely determine the rate,"¹⁸ thereby skewing the overall weighted average cost significantly toward Sorenson's underlying costs.¹⁹ Notably, both Purple and CSDVRS have costs approximately 70% higher than Sorenson.

18. Further, the *RLSA Proposal* shows that the Tier 3 providers' cost-based rates decreased from \$3.90 in the *2010 TRS Rate Order*²⁰ to approximately \$3.396 per minute in the *RLSA Proposal*,²¹ a 12.9% reduction.²² As before, this reduction is largely based on greater economies of scale in the industry, with volumes increasing from an average of approximately 84 million between 2007 and 2009 to an average of approximately 104 million between 2010 and 2012.

19. As previously noted, the Commission has long recognized that the VRS industry is characterized as an industry that benefits from economies of scale. However, the Commission has historically only recognized these economies between three categories of providers: "small providers (including new entrants); mid-level providers who are established but who do not hold a dominant market share; and large, dominant providers who are in the best position to achieve cost synergies."²³ But, these categories are demonstrably not sufficient to reflect the real-world cost differences, and economy of scale differences, between those providers having approximately between 500,000 minutes per month and 1,000,000 minutes per month and the

¹⁸ *2007 TRS Rate Methodology Order* at ¶ 52.

¹⁹ A simple average of the three providers' costs would be \$4.479 per minute, about one-third higher than the weighted average cost.

²⁰ *2010 TRS Rate Order* at Table 1.

²¹ *RLSA Proposal* at pg. 5.

²² Again, had it been possible to remove the data for the Tier 1 and Tier 2 providers, the Tier 3 average cost per minute would have been lower. As such, the 12.9% reduction from the *2010 TRS Rate Order* to the *RLSA Proposal* is likely understated.

²³ *2007 TRS Rate Methodology Order* at ¶ 53.

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cost decline of \$0.143 between 2010 and 2012 (from \$3.574 in 2010 to \$3.396 in 2012).

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[REDACTED]

[REDACTED]

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²⁵ Again, this reflects a combined rate for Sorenson and all other carriers. But, the total minutes are heavily dominated by Sorenson and should be a reasonable proxy for Sorenson's specific data.

C. The Suggestion That CA Costs Do Not Benefit From Economies Of Scale Is Unfounded And Contradicted By All Available Evidence.

25. Several Sorenson commenters, including Dr. Pelcovitz and Dr. Katz have argued that “providers can attain high efficiency at relatively low call volumes.”²⁶ They have purportedly made such claims based on use of the Erlang-C model.²⁷ However, neither Dr. Pelcovitz nor Dr. Katz ever explain, assess, or justify the appropriateness of either their assumptions or the Erlang C model in estimating the costs of VRS. While Erlang-C is undoubtedly useful in evaluating the staffing needs of call centers within an organization, it cannot be used to evaluate the staffing levels of different organizations with different call patterns and volumes without carefully adjusting for these differences. And, it is equally essential to understand the well known and documented limitations of the Erlang-C model.

26. First, Erlang-C assumes that sessions are initiated at a constant rate. This is far from the real-world experience where performance, and efficiency, is ultimately dictated by the peak calling situations. Put another way, staffing must be based on the maximum number of active sessions at any time during the day (or staffing during that shift of the day) and the performance levels desired in terms of waiting times and call abandon rates. Assuming a constant rate of session initiation, even over a peak hour, will necessarily understate the known volatility in call volumes within that hour. It would certainly be inappropriate to assume constant call volumes throughout an 8-hour or 24-hour period as has been assumed by Dr. Pelcovitz.²⁸ Failure to account for these factors, or even acknowledge that they exist, masks the

²⁶ See, for example, Declaration of Michael L. Katz, March 9, 2012, pg. 24 (“*Katz March 2012 Declaration*”) and Declaration of Dr. Michael D. Pelcovitz, May 21, 2010, pg. 11 (“*Pelcovitz May 2010 Declaration*”).

²⁷ *Katz March 2012 Declaration* at p. 22 and *Pelcovitz May 2010 Declaration* at p. 10, fn. 11.

²⁸ *Pelcovitz May 2010 Declaration* at p. 11 and following.



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real-world efficiency that is achieved. As such, the efficiencies depicted in Appendix 2 of the *Pelcovitz May 2010 Declaration* and in Figure 1 of the *Katz March 2012 Declaration* are simply not attainable and, by assuming away the volatility of call session initiations, flattens out the curve that would actually be experienced – making it appear that there is less efficiency gain at the higher portion of the curve.

27. Second, Erlang-C tends to flatten out the curve that would result from a real-world evaluation of call volume because it assumes that there will always be sufficient agents to handle the call volume and that calls are never abandoned. In other words, a call could be waiting for a very long time before it is handled, when that call would likely be abandoned in the real world. This, in turn, tends to create less variation in agent staffing than actually occurs. When combined with the assumption of constant session initiation, Erlang-C is simply incapable of reflecting real-world variations. As a result, many modern uses of Erlang-C are combined with Monte Carlo simulations to produce better results. Given the known weaknesses of Erlang-C, most modern call centers use much more sophisticated staffing models that tend to take into account the inherent unpredictability in call session initiation and in customer behavior.

28. Even more problematic is that, at least as far as the model produced by Dr. Pelcovitz is concerned, Erlang-C is not even used in his calculations despite his claims to the contrary.²⁹ In reviewing Appendix 2 of the *Pelcovitz May 2010 Declaration*, the second column in each table (identified as “agents”) does use Erlang-C modeling. However, he then determines the “total agents required,” which, in each and every case, results in a “total agents required” figure that is equal to or greater than the Erlang-C calculations. It is this value, the “total agents

²⁹ Unfortunately, Dr. Katz did not produce either a model or a table that could be replicated.

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required” value that Dr. Pelcovitz ultimately uses for his efficiency calculations. Unfortunately, this calculation has nothing to do with Erlang-C – it is a straight-forward calculation of: [(Calls per hour * Holding Time in Seconds) / Maximum Agent Seconds per hour]. The Maximum Agent Seconds per hour equals the maximum agent utilization (occupancy) assumed to be 50% times 3,600 seconds per hour – which equals an agent being able to handle 1,800 seconds per hours. Thus, take the first column in Appendix 2, where the assumption is 13.69 calls per hour and an average holding time of 390 seconds (360 seconds plus a 30 second setup time), for a total of 5,339 total seconds. In this case Dr. Pelcovits derives 3 “total required agents” by dividing the 5,339 total seconds by the 1,800 seconds per agent (which equals 2.97 and is rounded up to the next number of agents). Using the very next row, at 30,000 minutes, the 20.53 calls per hour at 390 seconds holding equals 8,007 seconds which, when divided by the maximum utilization of 1,800 seconds per agent, arrives at 4.45 (4.45 rounded up to 5). In short, it is obvious that, while talking about Erlang-C and its use in call center staffing, Dr. Pelcovitz never even utilizes it in his staffing efficiency model.

29. And the problems with this analysis go far beyond not using Erlang-C which, as mentioned above, would be problematic even if it were actually used. Appendix 2 shows that Dr. Pelcovitz calculates something very near a 99% at all volume levels. This is, to be blunt, a contrived calculation and merely reflects the difference between the “rounded up” number of employees assuming full utilization of the 1,800 seconds per hour and the “unrounded” number of employees. So, in the above example at 20,000 minutes, the 99% efficiency factor is simply the ratio of 2.97 agents from the raw calculation and the rounded up requirement of 3 agents ($2.97 / 3.00 = 99\%$). At 30,000 minutes, the 89% efficiency factor is simply the ratio of 4.45



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agents from the raw calculation and the rounded up requirement of 5 agents ($4.45 / 5.00 = 89\%$). Again, the claimed efficiency calculation has nothing to do with any actual process to staff call centers. It assumes perfectly even call volumes at every second of every minute of every day of every month in a year. This cannot reflect any real-world situation.

30. But, based on real-world experience and common sense, there is simply no way to ever achieve actual VRS efficiency in the 95% area. The reason that Drs. Pelcovitz and Katz show such a high utilization is that they assume a “maximum agent occupancy” of 50%. There is no basis or support for this input.³⁰ More importantly, they treat this 50% maximum agent occupancy factor as a maximum occupancy, not an average occupancy. For example, at the extremes, any given agent fluctuates between 100% efficiency and 0% efficiency. Even if, on average, that agent achieves 50% efficiency, this efficiency is measured over a period of time, not at a given point in time (again, which would either be 0% or 100%). Unfortunately, it appears that both Drs. Pelcovitz and Katz are utilizing a hypothetical overall efficiency of 50% as a maximum occupancy over any given time period (in other words, that a given agent will handle 1,800 seconds of calls per hour, each and every hour of that agent’s shift). But, this is clearly not the case. An individual agent may experience significantly higher occupancy during the peak busy hour and significantly lower occupancy during a slower time of the agent’s shift.

³⁰ Drs. Pelcovitz and Katz do not appear to have done any independent efficiency analysis. Rather, they reference a 2009 GoAmerica filing in which a “similar model of trunking efficiency” was provided and where GoAmerica apparently stated that VRS efficiency is “capped [] at 50 percent in order ‘to avoid repetitive stress injuries.’” [*Katz March 2012 Declaration* at p. 23, fn. 58.] But, GoAmerica never asserted that there was a 50% cap on VRS efficiency. Rather, the GoAmerica filing was being used to demonstrate that higher call volumes do yield a much more productive agent occupancy and, by having a large number of very small competitors, those call centers would be inefficient and yield inefficient use of a limited supply of interpreters. GoAmerica never suggests that the 50% efficiency factor it used was anything more than a hypothetical average utilization for illustrative purposes. For this very reason, GoAmerica said “[o]ther input assumptions would yield results similar to, although obviously not identical to, that set forth in the example” – because its inputs were only intended to be illustrative, not accurate. [*GoAmerica Comments* at p. 5, fn. 3.]

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On average, that hypothetical agent may experience 50% occupancy, but the actual occupancy during any given period may fluctuate from 0% when idle to 100% when active, to 95% over a 30 minute period to 75% over an hour period, to much less. In short, it is demonstrably wrong to suggest that a VRS staff would ever be able to achieve 50% occupancy both in the busy hour and during the slow hour.

31. Perhaps the most significant problem about using a 50% occupancy assumption and assuming that this level of utilization must occur evenly at every point throughout the day is it removes all of the call initiation volatility from the evaluation of staffing levels. By doing so, this assumption eliminates the factors associated with volatility smoothing as a function of increased volume. Put another way, Erlang-C and similar analyses will not fully reflect the true decrease expected to be realized in CA costs as volume increases. First, while Commission rules require that VRS providers answer 80% of calls within 120 seconds, 24 hours per day, seven days a week, competitive pressures require the fastest response times (*i.e.*, slower response times will lead to a loss of customers and lower volumes, thereby increasing unit costs). As such, efficient staffing is a significant driver of labor costs. And, efficient staffing (meaning higher utilization) is more achievable with a larger volume of calls. From my experience performing traffic studies in regulatory proceedings and while an employee at AT&T, traffic during the busy hours is often as much as 12 times higher (or even higher) than traffic that occurs in lower use periods of the day. Staffing levels must be set to meet the performance thresholds desired during those busiest times of the day. However, from my experience, when you have higher volumes of traffic, it is easier to smooth these peaks out over the staffing that you have available because the

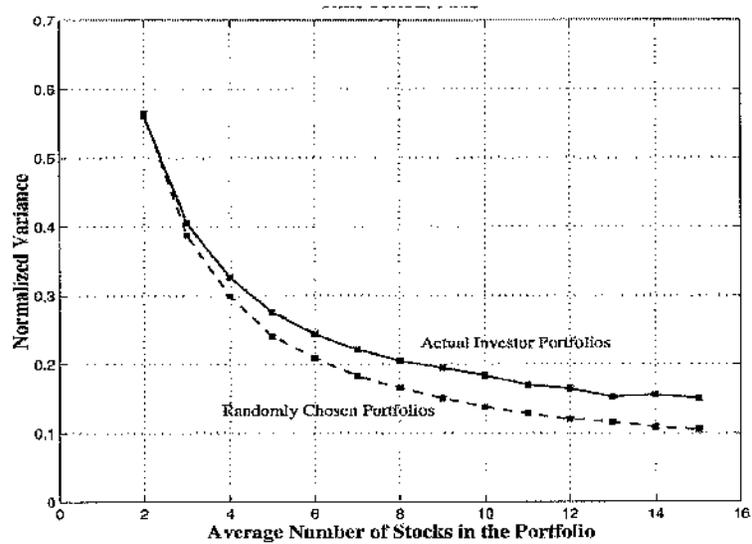
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larger volume of traffic makes the predictability within the peaks more stable as illustrated further below.

32. This specific situation is analogous to the measurement of volatility of stocks and portfolios – measurement of the standard deviation of the change in a stock's price. As most sophisticated investors realize, volatility is a key measure of risk associated with a particular stock or portfolio (*i.e.*, the more volatility, the riskier the stock or portfolio). Thus, as a stock's price may change both within a given day and from day to day, so will the call volumes in any given call center. As such, the volatility in call volume leads to inherent risk in staffing a call center.

33. While volatility is unavoidable, there are ways to reduce the risk associated with volatility. In the financial world, the measurement of Beta (β) is often used to estimate the relative risk of a given stock or portfolio to the market as a whole. Without getting into too much detail in the particular workings of the market or the calculation of Beta (β), the purpose is to gauge the covariance (the correlation of two random variables) of a particular stock or portfolio as compared to the overall market return. A Beta (β) of one indicates that the stock or portfolio returns change in direct correlation to the returns of the overall market. A Beta (β) of less than one the stock or portfolio is less risky than the market and a Beta (β) of greater than one indicates that the stock or portfolio is more risky than the market. But, the more relevant discussion is that the larger the portfolio of stocks (*i.e.*, the more diversification), the more the Beta (β) of the portfolio will approach one and have the same risk as the overall market. And, as such, it is possible to reduce the overall variance in return on investment.

Figure 2: Volatility of Portfolios to the Market³¹

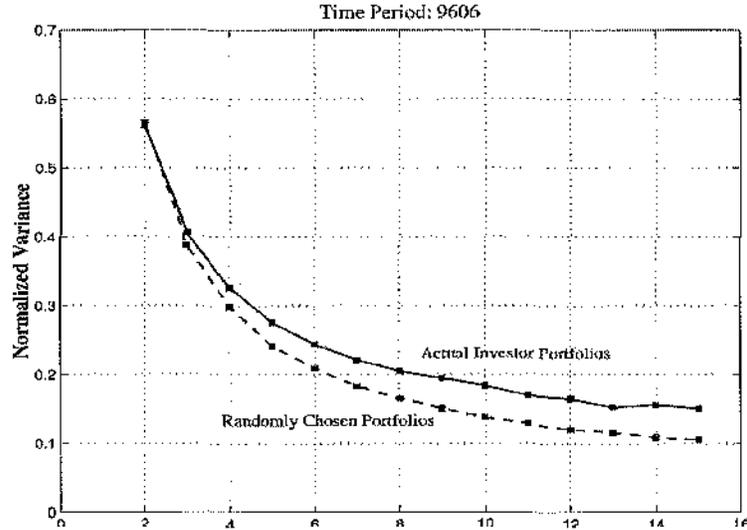


34. Similarly, the larger the volume of calls a VRS provider has, the more that provider's call patterns will reflect the call patterns of the overall market.

³¹ *Equity Portfolio Diversification*, William N. Goetzmann, School of Management, Yale University and Alok Kumar, McCombs School of Business, University of Texas at Austin, The Author 2008, Oxford University Press, March 28, 2008, p. 441. The only intended purpose of this graph is illustrate the normalization of variance as the number of stocks in a portfolio inceases.

Figure 3: Normalized Variance Of Portfolios to the Market³²

A: Volatility of investor portfolios relative to the volatility of the market portfolio



35. As such, and as illustrated in the above chart, the larger the volume, the more that provider’s call patterns will reflect the call patterns of the overall market and the less variance will be experienced. This does not necessarily reduce the volatility of the call volumes in a day or from day to day, but it will, on average, reduce the risk associated with having a smaller number of call minutes. Ultimately it is the staffing level during the peak load that dictates the staffing levels overall and the more predictable those peak loads are, the more efficient (*i.e.*, higher utilization) will be a provider’s CA staff.³³

36. The *RLSA Proposal* shows that total industry per-minute indirect costs dropped 11.3% between 2010 and 2012, as volumes increased by 8.7%. This reduction of about \$0.074

³² *Id.*

³³ See, *Katz March 2012 Declaration* at p. 21. “Firms that process larger volumes are able to take greater advantage of statistical averaging to smooth out the stochastic variation in their traffic volumes.” But, while correctly identifying these facts, Drs. Pelcovitz and Katz utilize a model that eliminates these very factors, assuming constant rate of session initiation, no abandonment, and the same variance whether at Purple’s volumes or at Sorenson’s volumes.

per minute accounted for about one-half of the total cost decline of \$0.143 between 2010 and 2012 (from \$3.574 in 2010 to \$3.396 in 2012).

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38. In addition, independent research and analysis confirms that call volume is a key determinant of economies of scale. For example, in an issue paper recommending best practices for call center staffing, the North American Quitline Consortium (an industry group focused on promoting best practices for call centers staffed with counselors to help callers with issues such as smoking cessation) states:

Another factor that has a major impact on staffing is the size of the center or the agent group. Centers handling large volumes of calls will naturally be more efficient than smaller groups. This is due to the economies of scale of large groups.

As highlighted in the example below, doubling the call volume does not require two times the number of staff to meet the same service goal of 80% in 20 seconds. When call volume increases eight times, only about six times the number of staffers is needed. As the volume grows, the staff-to-workload ratio gets smaller and smaller.

The reason for these increased efficiencies and the lower staff-to-workload ratio is simply that with a higher volume of calls, there is a greater likelihood that when an agent is finished with a call, there is another call for that agent to handle. With a bigger volume, each person has the opportunity to process more

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*calls each hour. Each person spends less time in the available state, waiting for a call to arrive, and not as many agents are needed because each person handles more calls.*³⁴

39. Finally, the Commission must recognize that there are other, perfectly valid reasons that two different providers may have very different cost structures. The fact that there are multiple competitors with different business plans is, in itself, an indicator that the industry players are competing in a way that mimics the way a competitive market would reach. At this point in time, Sorenson undoubtedly dominates the market. It has more marketing budget, outreach budget, and research and development budget. Smaller providers, such as Purple and CSDVRS must try to gain market share through other strategies. Many industries exhibit this characteristic and smaller players that cannot compete on costs compete based on factors such as quality of service and customer service. As such, factors such as average response time, quality of interpreters and labor rates for such interpreters, may very well result in a higher cost structure for some competitors than for others. This result is not indicative of an ineffective or uncompetitive industry – rather, it is reflective of a competitive industry in its growth and development where the service has not been commoditized.

40. Thus, in addition to the largely intuitive notion that general and administrative costs decrease on a per-unit basis as volumes increase (an intuitive notion that is supported by a myriad of data points), call centers also experience economies of scale and those economies result in improved utilization of employees and lower per-minute costs of VRS providers. Industry participants have postulated a variety of hypothetical models that question the extent of

³⁴ NAQC. (2010). Fundamentals of Call Center Staffing and Technologies. Quality Improvement Initiative (Reynolds, P.). Phoenix, AZ, p. 12 (*emphasis in original*).

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the economies of scale in the VRS industry, but none of the participants have even attempted to correctly use the Erlang-C model with inputs supported by actual data. And, none of these providers have put forth any explanation as to why all actual data shows significant economies of scale – whether comparing smaller providers to Sorenson or whether comparing Sorenson at its current volumes to Sorenson at much lower volumes.

41. However, Drs. Pelcovitz had Katz have postulated two theories to support a potential reason for the realized economies in scale. First, Dr. Pelcovitz explains that “[t]he textbook model of a firm’s costs function depicts a “U” shaped cost curve.”³⁵ He bases this conclusion on three reasons, two of which either do not apply or are largely irrelevant in the cost curve. In particular, Dr. Pelcovitz does not explain which production costs, such as factories, may be difficult to expand or how buying in bulk would apply to the VRS industry. But, more importantly, while the VRS industry may experience a U shaped cost curve, such a curve is not likely to cause an increase in costs at the volumes exhibited by these companies (there are many, much larger call centers providers that deal with much larger volumes than those at issue here). And, at the same time, Dr. Pelcovitz notes that Sorenson does not experience many of the pitfalls of other industries because it can readily establish new call centers to avoid a shortage of its inputs (interpreters).

42. More problematic is the suggestion that “[t]o the extent that a firm operating at that traffic volume had significantly higher costs than does Sorenson, it would likely be due to management decisions rather than failure to achieve sufficient scale.”³⁶ This statement is baseless, unsupported, and highly suspect. In order to believe this, one would have to believe

³⁵ Pelcovitz May 2010 Declaration at p. 7.

³⁶ See, Katz March 2012 Declaration at p. 17.

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that both Purple and CSDVRS, competitors of each other with similar volumes and similar cost structures, both have equally ineffective or inadequate management. That is highly unlikely. Rather, a much simpler explanation can be seen by actual data – both between competitors at different volume levels and by Sorenson’s own experience as its volumes have increased. Given that the Commission’s cost-based rates for the third tier, which is overwhelmingly based on Sorenson, decreased from about \$6.30 in *2007 TRS Rate Methodology* to \$4.51 in its *2010 TRS Rate Order*, a 28.4% reduction, it seems clear that Sorenson experienced substantial cost declines as its own volume increased. Then, the Commission found that the weighted-average cost-based rate decreased to \$3.396 (another 33% reduction) in the *RLSA Report*. In light of these extraordinary reductions in the industry cost-based compensation rates, and in the face of substantial overall industry growth, it is incomprehensible that one could write these off as being the result of “management decisions.”

D. Given The Fact That There Are Such Significant Economies Of Scale, With The Largest Carriers Achieving The Largest Reduction In Per-Minute Costs, There Is No Basis To Use A Single Weighted Average Industry Cost-Based Rate To Calculate A Reduction To Existing Rates.

43. The single largest problem with the *RLSA Proposal* is that it contemplates using a single, industry-wide cost as a basis for adjusting the current rates of all VRS providers. All of the information available shows that this methodology makes no sense and will harm all VRS providers other than Sorenson and will help Sorenson – essentially exacerbating the problem of having one carrier dominate the market.

44. For starters, the *RLSA Proposal* recommends that the Commission “reduc[e] the current VRS rates by one-third of the difference between the current rate and a three year

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weighted average [overall-industry] cost.”³⁷ But, as mentioned before and further supported above, the Commission recognizes that “one provider has a dominant market share, and thus this individual provider’s projected minutes and costs largely determine the rate.”³⁸ As such, what RLSA is really proposing is that the rate for all VRS providers should be reduced by one-third toward Sorenson’s costs. Of course, this would ensure that Sorenson is able to earn a return with its cost structure, but any carrier with a higher cost structure (meaning all other providers in the industry) will be adversely affected. In fact, the *RLSA Proposal* has the result of reducing both the Tier 1 and Tier 2 rates by \$0.95 but only reducing the Tier 3 rates by \$0.56, roughly 60% of the reduction in the Tier 1 and Tier 2 rates.³⁹ And, this larger proposed reduction in the Tier 1 and Tier 2 rates is being made without any information or evidence suggesting that the Tier 1 and Tier 2 providers have experienced greater cost reductions than the Tier 3 providers.

45. At the same time, the *RLSA Proposal* identifies that there is “substantial turn-over in firms providing VRS.”⁴⁰ The staffing levels of the largest three providers, Sorenson, Purple and CSDVRS, have remained constant during this time. Thus, this turn-over identified by RLSA is occurring in the smaller firms, which suggests that they are not profitable. Using a target industry-wide rate that predominately reflects the costs of the largest and most efficient provider will make it nearly impossible for smaller competitors to survive.

³⁷ *RLSA Proposal* at 6.

³⁸ *2007 TRS Rate Methodology Order* at ¶ 52.

³⁹ This translates into a 15.2% reduction in Tier 1 and Tier 2 rates compared to only an 11.0% reduction in Tier 3 rates. However, the dollar reduction is the more meaningful metric in this instance because what really matters to these carriers is the dollar reduction in the per-minute compensation.

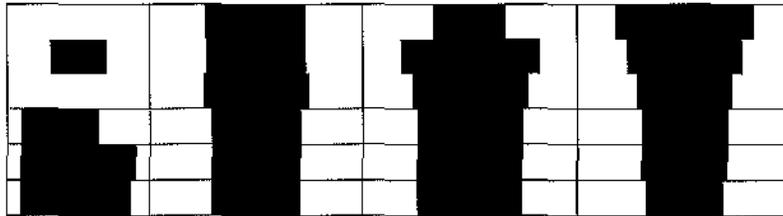
⁴⁰ *RLSA Proposal* at 6.

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46. Further, the *RLSA Proposal* will have a similar impact on Purple and CSDVRS. The following table compares Purple’s and CSDVRS’s costs to the recommended compensation in the *RLSA Proposal*:

Figure 4: Proposed Impact on VRS Providers⁴¹

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47. The above table demonstrates that, by using a single, industry-wide rate for all three Tier 3 carriers, the *RLSA Proposal* is actually creating a scenario where only one carrier is actually profiting from providing VRS services at the highest volume tier. As one might expect, this would be disastrous not only to Purple and CSDVRS but to all VRS providers other than Sorenson. As one might conclude, this would exacerbate the existing dominance of Sorenson in the industry and could encourage monopolistic conduct. In short, the *RLSA Proposal*, if adopted, could be the first step (and perhaps the final step) toward destroying competition in the VRS industry.

⁴¹ This table shows only the Tier 3 rates compared to each provider’s costs. While the VRS compensation rates in the *RLSA Proposal* are implemented in a “waterfall” fashion, the point is to show that only one provider has sufficient economies where they could profitably provide service at the highest tier (meaning that Purple and CSDVRS would lose money for all minutes in excess of 500,000 per month.

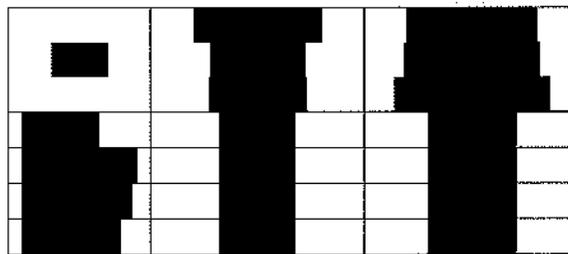
⁴² See, Table 1.

E. There Is No Reason To Believe That VRS Costs Will Necessarily Continue To Decline.

48. A fundamental concept behind the *RLSA Proposal* appears to be a belief that there is a “downward trend in actual cost of service” and that a projected increase in 2012 costs “need(s) to be scrutinized closely for reasonableness.”⁴³ As identified previously, there have been substantial unit cost decreases, on average, in the VRS industry. And, the larger the volume increases, the larger the unit cost declines.

Figure 5: Comparison of Price Declines and Volume Increases

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49. But, despite these overall declines, the *RLSA Proposal* also recognized “the substantial increase in communications assistants’ cost”⁴⁴ projected for 2012. Again, while suggesting that these costs “need to be scrutinized closely for reasonableness”⁴⁵ RLSA does also recognize that they are within the range of labor compensation increases, although on the very high end. I would agree that these costs should be carefully scrutinized but, at this time, there is no reason – or even suggestion – that these real-world cost increases are not accurate.

⁴³ *RLSA Proposal* at 3.

⁴⁴ *Id.*, at 3.

⁴⁵ *RLSA Proposal* at 3.

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50. The fact of the matter is that, while the VRS industry is characterized by having significant economies of scale, the industry is also characterized as having a very high labor-related cost component. In fact, Purple's VRS employee costs conservatively constitute in excess of two-thirds of total expenses.⁴⁶ If one were to include Purple's other labor-related costs, including call-center contracted labor, advertising and marketing, outside services and professional fees and other associated costs, Purple's overall labor-related costs would be a much higher percentage of total costs. While there are variations in labor costs, they undoubtedly and indisputably increase over time. And, because labor costs are the single largest cost (by far) of providing VRS services, the total unit cost of providing VRS services are likely to increase, not decrease, over time absent increased volume and economies of scale.

51. Of course, labor cost increases may be offset, or even more than offset, by productivity gains. Higher productivity gains may be realized in the event of new technologies or even efficiencies in performance. The *2007 Rate Methodology Order* suggested that VRS experiences productivity gains of about 0.05% per year.⁴⁷ In short, without the development of significant new technologies, it is reasonable to expect that VRS labor costs increases will exceed the productivity gains in any given year – again, absent an increase in volumes resulting in greater economies of scale.

52. In short, there is no reason to expect that the VRS industry will experience cost declines absent overall growth in VRS volume resulting in greater economies of scale. And, while there may have been a reason to expect significantly greater economies in years past, with

⁴⁶ Employee costs include salaries and wages, payroll taxes and benefits paid to employees.

⁴⁷ *2007 TRS Rate Methodology Order* at ¶ 47.

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an average annual growth of 38% between 2005 and 2009,⁴⁸ the average annual growth has only been about 3.0% over the last two years.⁴⁹ There is no basis for the belief that this will change in the near future. As such, there is simply no reason to envision that the VRS industry will experience a reduction in per-minute costs going forward and no evidence has been presented to support such a notion.

53. While it is understandable that the Commission is frustrated by “the large discrepancy between actual costs and provider compensation in the face of substantial evidence that providers are receiving far more in compensation than it costs them to provide service,”⁵⁰ it is not fair to conclude that past “projections that consistently overstate true costs and overcompensate VRS providers”⁵¹ are still true today. In fact, it would have been very difficult for VRS providers to accurately estimate the economies of scale they were to realize over that period.⁵² This is not unusual in an industry characterized by rapid adoption of new technologies. However, once an industry has experienced high-scale adoption, growth rates become more stabilized and predicable. Rather, the relatively small and steady growth in the VRS minutes today make it much more likely that providers can more accurately estimate their costs, and these costs are not likely to decrease in any significant way without the benefits of additional economies of scale. At the very least, the above analysis makes it clear that RLSA’s suggestion that “the Commission could determine an annual reduction in the differences in Tier rates if the

⁴⁸ VRS industry minutes grew from 27.2 million in 2005 to 98.7 million in 2009.

⁴⁹ VRS industry minutes grew from 98.7 million in 2009 to 104.8 million in 2011.

⁵⁰ *2010 TRS Rate Order* at ¶ 12.

⁵¹ *Id.*

⁵² In order to do so, each provider would have had to anticipate the growth in VRS minutes and their portion of that overall growth. Such a dynamic market with such astronomical growth makes any forecast subject to numerous assumptions and uncertainties.

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Commission finds that such a reduction is in the public interest⁵³ would be inappropriate given the current nature of the VRS industry.

F. The Commission Must Reevaluate Its Views For Calculating Costs For The Establishment Of Compensation Rates.

54. The *FCC Public Notice* seeks comments on “the appropriate treatment of capital costs, rate of return and related issues.”⁵⁴ Industry participants have widely supported the need for the compensation rates to compensate providers for all costs required to provide VRS services.⁵⁵ These views are well founded and much supported. Should the Commission fail to reimburse providers for some reasonable level⁵⁶ of marketing, outreach and research and development, it follows that providers will not cover their costs. As various commenters have pointed out, failure to compensate for these real-world costs will necessarily lead to a number of negative consequences.⁵⁷

⁵³ *RLSA Proposal* at 7.

⁵⁴ *FCC Public Notice*, pg. 8.

⁵⁵ See, for example, *Comments of Sorenson Communications, Inc.*, March 9, 2012, pg. 40 (“*Sorenson March 2012 Comments*”) and *CSDVRS Ex Parte Notice*, CG Docket Nos. 10-51 and 03-123, October 25, 2012 (“*CSDVRS Ex Parte Notice*”).

⁵⁶ A reasonable level does not necessarily mean a per-minute compensation rate equal for all providers. For example, a unitary compensation rate for marketing, outreach and research and development will help perpetuate the market dominance of the current dominant provider. Assuming an equal per-minute compensation rate for all VRS providers and that Sorenson’s currently has an approximately 80% market share, Sorenson would enjoy approximately 4 times the marketing, outreach and research and development funds than all other industry players combined (or approximately ten times the next largest provider). Sorenson would then be able to spend ten times the amount of marketing dollars and invest ten times more on research and development than any other provider, thereby perpetuating a scenario where Sorenson will continue to dominate the market, if not corner the market. The RLSA data suggests that approximately \$38 million is spent on marketing, outreach and research and development per year. These funds are necessary and should be disbursed to VRS providers in a competitively neutral manner so as not to unreasonably distort the market.

⁵⁷ See, for example, Declaration of Michael L. Katz, March 9, 2012, pg. 45 (“*Katz March 2012 Declaration*”) and *CSDVRS Ex Parte Notice*, October 25, 2012.

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55. Similarly, the industry has widely agreed that a traditional regulated rate of return methodology is inapplicable for the VRS industry. Sorenson has commented that “attempts to limit profits to a specific return on capital would grossly under-compensate providers” because “[u]nlike traditional telecommunications services, which are capital intensive, the vast majority of VRS costs stem from non-capital expenses.”⁵⁸ Sorenson further explains that “[i]n a service industry, the firm doesn’t just pass through its labor costs; it earns a margin on those costs to reward it for assembling the labor pool and organizing it into a productive unit.”⁵⁹

56. The *RLSA Proposal* fully supports the fact that using a traditional return on investment analysis would be catastrophic for the industry and each provider in the industry. The three-year weighted average return on investment, using the Commission’s 11.25% rate of return adopted in 1990, is \$0.0569 (less than six cents). When adjusted for taxes, this amounts to \$0.0769 (less than eight cents). This accounts for only 2.3% of the industry-average cost structure.⁶⁰ Assuming approximately 100,000,000 industry-wide minutes, this amounts to a total annual industry-return of \$7.7 million dollars on an industry with not only a capital investment base in excess of \$50 million, but approximately \$340 million in annual expenses. While these margins would not be attractive to any industry participants, the vast majority of these dollars are going to Sorenson, leaving very little for the remainder of the industry. In short, a rate of return

⁵⁸ *Reply Comments of Sorenson Communications, Inc.*, September 2, 2012, pp. 4-5 (“*Sorenson September 2010 Comments*”) and *Comments of CSDVRS*.

⁵⁹ *Sorenson March 2012 Comments* at 39.

⁶⁰ The specific rate of return is simply not a very significant matter. By way of example, reducing the rate of return by 1/3rd, to 7.5%, would reduce the calculated industry cost by only about 2.5 cents. Similarly, increase the rate of return by 1/3rd, to 15%, would increase the calculated industry cost by only about 2.5 cents. As such, while it is important to allow industry participants to recover these costs, the more significant rate-setting issues revolve around properly establishing rates that achieve the FCC’s public policy objectives.

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methodology for compensating VRS providers will simply not be attractive, will drive investors (and investments) from the market and harm the industry as a whole.

57. While it is true that many business decisions are made based on rate of return related to capital investment, this is not a primary driver in valuing an enterprise. Here, it is important to differentiate between investing capital (*i.e.*, money) and capital investment (*i.e.*, the capital, or fixed, assets of a firm). Rather, a business' primary objective is to maximize its enterprise or shareholder value. McKinsey and Company publishes a text on the valuation of enterprises entitled Valuation: Measuring and Managing the Value of Companies. In this text, the authors note the following: "The guiding principle of value creation is that companies create value by investing capital they raise from investors to generate future cash flows at rates of return exceeding the cost of capital (the rate investors require to be paid for the use of their capital)."⁶¹ It is important to note here that the valuation of an enterprise is not tied solely to the return on capital investment (*i.e.*, fixed assets) as limited in the *Rolka* report, but instead is tied to the return on the capital (*i.e.*, dollars) raised from investors. This concept of providing a return on investors' money is important for the Commission to consider in this proceeding because investors will no longer invest money in this industry if those dollars are not generating returns and, as such, the FCC will fail in achieving a competitive landscape.

58. Given that shareholder value is tied to the discounted value of future anticipated cash flows, it is obvious that earnings are critical to the value of a company and investors' decisions are, in turn, guided by these earnings. For this reason, one of the most widely-used valuation techniques is expressed as a multiple of earnings or a similar metric (such as earnings

⁶¹ Koller, Tim, Goedhart, Marc, and Wessels, David, Valuation: Measuring and Managing the Value of Companies, Fifth Edition, John Wiley & Sons, Inc., Hoboken, NJ, 2010, Kindle Location Nos. 447-452.

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before interest, taxes, depreciation and amortization or EBITDA) relative to the enterprise value for the firm. McKinsey's text on valuation goes on to note:

*Discounted cash flow (DCF) analysis is the most accurate and flexible method for valuing projects, divisions, and companies. Any analysis, however, is only as accurate as the forecasts it relies on. A careful multiples analysis—comparing a company's multiples with those of similar companies—can be useful in making such forecasts and the DCF valuations they generate more accurate. Such an analysis can help test the plausibility of cash flow forecasts, explain mismatches between a company's performance and those of its competitors, and support useful discussions about which companies the market believes are strategically positioned to create more value than other industry players.*⁶²

In short, there are many approaches that the Commission could implement that would properly drive proper business incentives in the labor-intensive industry that does not have significant fixed assets. But, unfortunately, a return on fixed investment is not one of the methodologies. Whether forecasting cash flows, margins, EBITDA, or utilizing metrics and multiples, the most important decision is to send the correct economic signals to the marketplace – signals that encourage investment in new technologies, superior customer services, efficiency gains and competition.

59. Moreover, of the numerous ways that the Commission can properly regulate the VRS market while achieving its public policy objectives, it is most essential that the Commission look toward an approach that continues to foster innovation and competition. By way of example, should the Commission move to an industry-wide cost as a basis of establishing the reimbursement rate for VRS, Sorenson would undoubtedly reap windfall profits and drive most, if not all, competitors from the market. Doing so will help the Commission achieve the lowest VRS cost per minute and minimize the size of the fund – but only in the short run. In the long

⁶² *Id.* at Kindle Location Nos. 5469-5474.

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run, the industry, and the hearing impaired consumers that it serves, will suffer from marginal or nonexistent competition.⁶³

60. On the other hand, it is also true that efficient regulation necessarily needs to incentivize carriers to continue providing services as well as to improve its operations (improved services, lower costs, etc.). In this respect, the Commission would be best served by creating a consistent and sustainable compensation regime that fosters effective competition, hampers the ability of a single carrier to dominate the market and rewards productivity improvements. This compensation regime could effectively be informed by historical costs but, as stated above, the rates must cover costs plus allow an earning potential that will drive enterprise value and mimic the mechanics of a competitive marketplace.

61. Once established, the industry needs some measure of predictability in revenue streams in order to make informed decisions about long-term opportunities and make rational investment decisions. Sorenson, for example, has supported the concept of a rate cap.⁶⁴ A rate cap is a perfectly rational and appropriate regulatory approach that helps ensure viable providers with proper incentives. And, it also establishes predictability in the fund administration and size. However, the Commission needs to be careful that a price cap mechanism drives a competitive market, not a market that will result in a single, dominant provider. As such, price caps must be both tiered in manner that will reward efficiencies toward a competitive market but provide a disincentive toward pursuing market dominance. This could be done in any number of ways. The Commission could set an absolute maximum minute threshold for any single provider. The

⁶³ Lack of competition is widely recognized as having numerous repercussions, including less innovation, poor service and inefficient operations.

⁶⁴ See, Reply Comments of Sorenson Communications, Inc., March 30, 2012 at 39. See, Reply Comments to FNPRM on Structure and Practices of the Video Relay Services Program, March 30, 2012 at 4.

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Commission could establish a tier structure that, while providing revenue for minutes above a maximum threshold, that revenue will result in reduced earnings for each minute in excess of the maximum threshold (*i.e.*, variable costs exceed per-minute revenues). The Commission could continue eliminating marketing, outreach and research and development funds at a given maximum minute threshold and redistributing those funds to competing carriers. The possibilities are endless.

III. CONCLUSION

62. At its core, the single most important issue the Commission needs to determine is if it wants to pursue a compensation regime that will promote a VRS market with multiple providers (and reap the benefits of competition) or if it wants to promote a VRS market that will yield the lowest short-term cost (but lose the benefits of a competitive market). This single decision will drive much of the Commission’s decision-making.

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64. While Sorenson may argue that such cost differences may be due to better management practices, such an argument is purely speculative and unfounded.⁶⁵ And, despite the ultimate reason for these lower costs, one fact remains the same and remains undisputable – should the Commission implement a single, industry-wide rate, as opposed to a tiered rate structure, either companies such as Purple and CSDVRS will go out of business or Sorenson will reap a windfall profit perpetuating its market dominance. As a result, should the Commission want to promote competition and the rewards thereof, it must adopt policies to level out the playing field so that no single provider dominates the market.

65. Once the Commission makes its determination on how and if it wants to promote competition in the VRS industry, there seems to be unanimous agreement that it is imperative that the Commission adopt a compensation regime that best simulates the incentives in a competitive market and that rate-of-return regulation does not accomplish this goal because of the unique, labor-intensive nature of the VRS industry and the lack of significant capital investment. The best way for the Commission to do this is to focus on the bottom-line market driver – enterprise value, which is, in turn, driven by earnings.

⁶⁵ It is equally true that it would be impossible to argue that all differences are entirely volume-based. But, it is beyond belief that the entire reason that Sorenson has costs less than one-half of those of its next two largest competitors is because its management practices are that much better.

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Education

MBA in Finance from
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Background

In 1987, Mr. Turner joined AT&T and, during his career there, held a variety of engineering, operations, and management positions. These positions covered the switching, transport, and signaling disciplines within AT&T. From 1995 to 1997, Mr. Turner worked in the organization responsible for AT&T's entry into the local infrastructure market and developed models evaluating AT&T's potential market entry alternatives including switch and fiber builds, hybrid fiber-coax service, broadband fixed wireless, and others. While in this organization, Mr. Turner gained familiarity with many of the regulatory issues surrounding AT&T's local market entry, including issues concerning the unbundling of incumbent local exchange company networks. Mr. Turner was on the AT&T team that negotiated with SBC concerning unbundled network element definitions and methods of interconnection.

From 1997 to 2006, Mr. Turner was President of his own consulting firm, Kaleo Consulting. Kaleo Consulting was a boutique consulting firm specializing in providing expert testimony in technical and financial areas related to telecommunications. Mr. Turner's projects involved issues related to contractual terms and conditions between telecommunications service providers, the costs for network elements including interoffice transport, collocation, loops (media used to connect to customer premises), switching, signaling, and other related areas. Mr. Turner's consulting assignments also included the responsibility of negotiating interconnection agreement terms and conditions between new entrants and incumbents or negotiating settlements with numerous companies including AT&T and Verizon. To the extent that these contracts required the inclusion of rates for telecommunications services, Mr. Turner developed and/or evaluated numerous models pertaining to the development of network component costs. Finally, Mr. Turner's firm



provided strategic consulting services to companies regarding where and how to enter various telecommunications markets.

Now at FTI Consulting, Mr. Turner continues to work extensively within the telecommunications industry both in the United States and internationally.

Mr. Turner holds an MBA with a concentration in Finance from Georgia State University. He has also received his Bachelor of Science degree in Electrical Engineering from Auburn University.

STEVEN E. TURNER

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FTI CONSULTING EMPLOYMENT EXPERIENCE:

Managing Director (Network Industry Strategies – Telecommunications) (Dec 2006-Present)

- Provide expert testimony in technical and financial areas for telecommunications specifically addressing contracts, terms and conditions, telecommunications network investment and operations costs, and other related issues.
- Negotiate contracts and settlement agreements on behalf of clients particularly related to telecommunications terms and conditions.
- Develop and/or evaluate numerous models pertaining to the development of costs for various components of telecommunications networks including interoffice transport, collocation, loops, switching, signaling and other related areas.
- Develop models to aid companies in developing market entry plans for the local telecommunications market. This assistance includes evaluating what market entry alternatives as well as which geographies provide the best profit opportunities for the new entrant.

KALEO CONSULTING EMPLOYMENT EXPERIENCE:

President – Telecommunications and Financial Consulting Firm (Jan 1997-Dec 2006)

- Head of boutique consulting firm specializing in providing expert testimony in technical and financial areas related to telecommunications including the following: contractual terms and conditions and costs for interoffice transport, collocation, loops (media used to connect to customer premises), switching, signaling and other related areas.
- Negotiated contracts and settlement agreements on behalf of clients with numerous companies including SBC (Southwestern Bell, Ameritech, and Pacific Bell), Verizon (Verizon-East and GTE territories), and BellSouth.
- Developed and/or evaluated numerous models pertaining to the development of costs for various components of telecommunications networks including interoffice transport, collocation, loops, switching, signaling and other related areas.
- Develop models to aid companies in developing market entry plans for the local telecommunications market. This assistance includes evaluating what market entry alternatives as well as which geographies provide the best profit opportunities for the new entrant.
- Provided consulting services for venture capital project evaluations.

ALT COMMUNICATIONS EMPLOYMENT EXPERIENCE:

Co-Founder and President – Competitive Local Exchange Carrier (Feb 1998-Jun 1999)

- Co-founded the first operational Competitive Local Exchange Carrier (CLEC) provided telecommunications services in Texas using the unbundled network elements platform (UNE-P).
- Established all contractual relationships with SBC to provide local phone service in Texas.
- Established all legal authorities required with the state regulatory bodies to provide local phone service in Texas.
- Developed tariffs necessary to provide in-state and inter-state services.
- Negotiated the sale of ALT Communications to Birch Telecom (headquartered in Kansas City, MO) in January 1999. Completed hand-off of the company to Birch Telecom in June 1999.

AT&T EMPLOYMENT EXPERIENCE:

DISTRICT MANAGER - CONNECTIVITY NETWORK PLANNING - LI&AM (Feb 1996-Dec 1996)

- Managed the development of AT&T's Infrastructure Plans of Record for the Southwest region. These plans entailed defining the right mix of built and leased infrastructure to meet AT&T's local offer needs at the least cost.
- Managed AT&T's dedicated access inventory in the Southwest region. This effort involved identifying the optimum supplier(s) in each market for AT&T's access needs to meet both financial and strategic objectives.

MANAGER - STRATEGIC ACCESS PLANNING - Access Strategic Planning (Nov 1994-Feb 1996)

- Managed the development of strategic models to analyze alternatives for entering the local market. These models considered various technologies for entering local that would optimize the contribution to AT&T from a revenue, expense, and capital perspective.

RE-ENGINEERING MANAGER - Network Operations (Jul 1994-Oct 1994)

- Directed a CCS-NSD management-union team in re-engineering the engineering, provisioning, and maintaining of the Operator Services network. Delivered a re-engineered process that reduced operational expense significantly while mitigating the impacts on customers and employees.

PROJECT MANAGER/SYSTEM ENGINEER - CCS Centralized Test Center (Jan 1992-Jun 1994)

- Coordinated implementation plans and system development for new services and network elements in the Common Channel Signaling (CCS) Network. The planning scope included provisioning, monitoring, and maintaining the T1.5 facilities for the CCS signaling circuits.
- Acquired funding (development, capital, and head count) through writing and defending business cases in support of projects for new services or network elements in the CCS Network. Upon approval, coordinated the implementation of system development and capital projects affecting the CCS Centralized Test Center.

DEPARTMENTAL QUALITY MANAGER - Network Operations (Jan 1990-Jan 1992)

- Developed the Network Operations Quality Management System and implemented it into an organization of 5000 people. Implementation required gaining organizational support for staffing and training 40 Quality Specialists and managing their efforts in transferring the quality technology into Network Operations.

OPERATIONS SUPERVISOR - Regional Network Service Center (Nov 1988-Dec 1989)

- Managed the Regional Network Service Center serving AT&T customers in the Southeastern United States through correcting their service troubles. Responsibilities included leading a team of 20 associates who responded to over 2000 customer troubles per month and escalating with Local Exchange Companies to remove barriers to trouble resolution.

4ESS SWITCH ENGINEER - Network Engineering Services (Dec 1987-Nov 1988)

- Identified current levels of asset utilization, analyzed future needs, and developed a capital budget to purchase and provision the necessary equipment to efficiently meet customer needs. Managed the implementation of over \$10M in capital projects.

GENERAL ELECTRIC EMPLOYMENT EXPERIENCE:

RESEARCH AND DESIGN ENGINEER - Simulation and Control Systems (Jun 1986-Dec 1987)

- Designed and developed a major sub-system for a high-speed graphics simulator supporting both defense and commercial customers.
- Designed and developed a Very Large-Scale Integrated (VLSI) Chip with over 80,000 transistors used in the video display sub-system for the high-speed graphics simulator.

EDUCATION:

August 1990: **Masters of Business Administration Degree - Finance**
Georgia State University
Atlanta, Georgia

December 1986: **Bachelor of Science Degree - Electrical Engineering**
Auburn University
Auburn, Alabama

Steven E. Turner
Expert Testimony

Before the Corporation Commission of the State of Oklahoma, *Application of Ernest G. Johnson, Director of the Public Utility Division, Oklahoma Corporation Commission to Explore the Requirements of Section 271 of the Telecommunications Act of 1996*, Cause No. PUD 970000064, Statement of Steven E. Turner on behalf of AT&T Communications of the Southwest, March 2, 1997.

Transcripts for hearings in the above matter are available from the Oklahoma Corporation Commission.

Before the State Corporation Commission of the State of Kansas, *In the Matter of Southwestern Bell Telephone Company – Kansas' Compliance with Section 271 of the Federal Telecommunications Act of 1996*, Statement of Steven E. Turner on behalf of AT&T Communications of the Southwest, March 13, 1997.

Transcripts for hearings in the above matter are available from the Kansas Corporation Commission.

Public Utility Commission of Texas, *Application of AT&T Communications of the Southwest, Inc. for Compulsory Arbitration to Establish an Interconnection Agreement between AT&T and Southwestern Bell Telephone Company*, Docket No. 16226, Comments of Steven E. Turner on behalf of AT&T Communications of the Southwest and MCI Telecommunications Corporation and its Affiliate MCIMetro Access Transmission Services, Inc., April 21, 1997.

Public Utility Commission of Texas, *Application of AT&T Communications of the Southwest, Inc. for Compulsory Arbitration to Establish an Interconnection Agreement between AT&T and Southwestern Bell Telephone Company*, Docket No. 16226, Direct Testimony of Steven E. Turner on behalf of AT&T Communications of the Southwest, Inc. & MCI Telecommunications Corporation and MCIMetro Access Transmission Services, Inc. Regarding Physical Collocation, September 9, 1997.

Public Utility Commission of Texas, *Application of AT&T Communications of the Southwest, Inc. for Compulsory Arbitration to Establish an Interconnection Agreement between AT&T and Southwestern Bell Telephone Company*, Docket No. 16226, Direct Testimony of Steven E. Turner and Nina W. Cornell on behalf of AT&T Communications of the Southwest & MCI Telecommunications Corporation and MCIMetro Access Transmission Services, Inc., September 15, 1997.

Public Utility Commission of Texas, *Application of AT&T Communications of the Southwest, Inc. for Compulsory Arbitration to Establish an Interconnection Agreement between AT&T and Southwestern Bell Telephone Company*, Docket No. 16226, Prefiled Direct Testimony of Steven E. Turner on behalf of AT&T Communications of the Southwest, Inc. & MCI Telecommunications Corporation and MCIMetro Access Transmission Services, Inc. Regarding Physical Collocation, November 26, 1997.

Public Utility Commission of Texas, *Application of AT&T Communications of the Southwest, Inc. for Compulsory Arbitration to Establish an Interconnection Agreement between AT&T and Southwestern Bell Telephone Company*, Docket No. 16226, Statement of Steven E. Turner Regarding Entrance Facilities on behalf of AT&T Communications of the Southwest, Inc. & MCI Telecommunications Corporation and MCIMetro Access Transmission Services, Inc. Regarding Physical Collocation, January 26, 1998.

Transcripts for hearings in the above matter are available from the Texas Public Utilities Commission.

Before the Federal Communication Commission, *In the Matter of Application of SBC Communication Inc. for Authorization Under Section 271 of the Communications Act to Provide In-Region, InterLATA Service in the State of Oklahoma*, CC Docket No. 97-121, Affidavit of Steven E. Turner on behalf of AT&T Corp., May 1997.

Before the Nevada Public Utilities Commission, *Cost Proceeding before the Nevada Public Utilities Commission to Determine Cost-Based Rates for Unbundled Elements and Interconnection for Nevada Bell and Sprint-Centel of Nevada*, Rebuttal Testimony of Steven E. Turner Regarding Collocation, June 1997.

Transcripts for hearings in the above matter are available from the Nevada Public Utilities Commission.

Before the Public Services Commission of the State of Arkansas, *In the Matter of Southwestern Bell Telephone Company – Arkansas' Application for Approval of SGAT*, Statement of Robert V. Falcone and Steven E. Turner on behalf of AT&T Communications of the Southwest, Inc., June 5, 1997.

Transcripts for hearings in the above matter are available from the Arkansas Public Services Commission.

Public Utility Commission of Texas, *Application of AT&T Communications of the Southwest, Inc. for Compulsory Arbitration of Further Issues to Establish an Interconnection Agreement between AT&T and Southwestern Bell Telephone Company*, Docket No. 17579, Direct Testimony of Robert Falcone and Steven E. Turner on behalf of AT&T Communications of the Southwest, Inc., July 28, 1997.

Public Utility Commission of Texas, *Application of AT&T Communications of the Southwest, Inc. for Compulsory Arbitration of Further Issues to Establish an Interconnection Agreement between AT&T and Southwestern Bell Telephone Company*, Docket No. 17579, Supplemental Direct Testimony of Steven E. Turner on behalf of AT&T Communications of the Southwest, Inc. (Filed Under Seal), July 28, 1997.

Transcripts for hearings in the above matter are available from the Texas Public Utilities Commission.

Public Utility Commission of Colorado, In Re: *Application of US West Communications, Inc. for the Interconnection Cost Adjustment Mechanism*, Docket No. 97A-011T, Testimony of Steven E. Turner on behalf of AT&T Communications of the Mountain States, Inc. and MCI Communications, Inc., August 8, 1997.

Before the Public Utilities Commission of the State of Hawaii, *In the Matter of Instituting a Proceeding on Communications, Including an Investigation of the Communications Infrastructure of the State of Hawaii*, Docket No. 7702, Rebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of Hawaii, Inc., August 27, 1997.

Transcripts for hearings in the above matter are available from the Hawaii Public Utilities Commission.

Before the Public Service Commission of the State of Missouri, *In the Matter of AT&T Communications of the Southwest, Inc.'s Petition for Second Compulsory Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Interconnection Agreement with Southwestern Bell Telephone Company*, Joint Position Statements, November 1997.

Transcripts for hearings in the above matter are available from the Missouri Public Service Commission.

Before the Minnesota Public Utilities Commission, *Cost Proceeding to Determine Cost-Based Rates for Unbundled Elements and Interconnection for US West Communications, Inc.*, Direct Testimony of Steven E. Turner Regarding Physical and Virtual Collocation Costs on behalf of AT&T Communications of the Mountain States, Inc., December 1997.

Before the Public Utility Commission of California, *Application of AT&T Communications of the Southwest, Inc. for Compulsory Arbitration to Establish an Interconnection Agreement between AT&T and Pacific Bell Telephone Company*, Joint Declaration of Steven E. Turner and Rick Bissell on behalf of AT&T Communications of the Southwest, Inc. and MCIMetro Transmission Access Services, Inc., December 15, 1997.

Before the Public Utility Commission of California, *Application of AT&T Communications of the Southwest, Inc. for Compulsory Arbitration to Establish an Interconnection Agreement between AT&T and Pacific Bell Telephone Company*, Rebuttal Statement of Steven E. Turner on behalf of AT&T Communications of the Southwest, Inc. and MCIMetro Transmission Access Services, Inc., March 4, 1998.

Before the Public Utility Commission of California, *Application of AT&T Communications of the Southwest, Inc. for Compulsory Arbitration to Establish an Interconnection Agreement between AT&T and Pacific Bell Telephone Company*, Supplemental Rebuttal Statement of Steven E. Turner on behalf of AT&T Communications of the Southwest, Inc. and MCIMetro Transmission Access Services, Inc., March 20, 1998.

Before the Corporation Commission of the State of Oklahoma, *Application of Cox Oklahoma Telcom, Inc., for a Determination of the Costs of, and Permanent Rates for the Unbundled Network Elements of Southwestern Bell Telephone Company*, Cause No. PUD 970000213, Direct Testimony of Steven E. Turner, January 12, 1998.

Before the Corporation Commission of the State of Oklahoma, *Application of Cox Oklahoma Telcom, Inc., for a Determination of the Costs of, and Permanent Rates for the Unbundled Network Elements of Southwestern Bell Telephone Company*, Cause No. PUD 970000213, Rebuttal Testimony of Steven E. Turner, February 24, 1998.

Before the Corporation Commission of the State of Oklahoma, *Application of Cox Oklahoma Telcom, Inc., for a Determination of the Costs of, and Permanent Rates for the Unbundled Network Elements of Southwestern Bell Telephone Company*, Cause No. PUD 970000213, Summary of Rebuttal Testimony of Steven E. Turner, March 4, 1998.

Transcripts for hearings in the above matter are available from the Oklahoma Corporation Commission.

Before the Corporation Commission of the State of Oklahoma, *Application of the Attorney General of the State of Oklahoma, AT&T Communications of the Southwest, Inc., Brooks Fiber Communications of Oklahoma, Inc., Brooks Fiber Communications of Tulsa, Inc., Cox Oklahoma Telecom, Inc., MCI Telecommunications Corporation, and Sprint Communications, L.P. to Explore Southwestern Bell Telephone Company's Compliance with Section 271(c) of the Telecommunications Act of 1996*, Cause No. PUD 970000560, Affidavit of Steven E. Turner on behalf of AT&T Communications of the Southwest, March 23, 1998.

Transcripts for hearings in the above matter are available from the Oklahoma Corporation Commission.

Before the Public Utility Commission of California, *Cost Proceeding before the California Public Utility Commission to Determine Prices for Unbundled Elements and Interconnection for Pacific Bell*, Direct Testimony of Steven E. Turner on behalf of AT&T Communications of the Southwest, Inc. and MCI Metro Transmission Access Services, Inc., April 6, 1998.

Before the Public Utility Commission of California, *Cost Proceeding before the California Public Utility Commission to Determine Prices for Unbundled Elements and Interconnection for Pacific Bell*, Rebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of the Southwest, Inc. and MCI Metro Transmission Access Services, Inc., April 22, 1998.

Transcripts for hearings in the above matter are available from the California Public Utility Commission.

Before the State Corporation Commission of the State of Kansas, *In the Matter of Southwestern Bell Telephone Company – Kansas’ Compliance with Section 271 of the Federal Telecommunications Act of 1996*, Statement of Steven E. Turner on behalf of AT&T Communications of the Southwest, May 1998.

Before the Public Utility Commission of California, *Rulemaking on the Commission’s Own Motion to Govern Open Access to Bottleneck Services and Establish a Framework for Network Architecture Development of Dominant Carrier Networks*, Docket No. R.93-04-003 (Filed April 7, 1993), *Investigation of the Commission’s Own Motion to Open Access and Network Architecture Development of Dominant Carrier Networks*, Docket No. 1.93-04-002 (Filed April 7, 1993), Affidavit of Steven E. Turner Regarding Collocation Phase Questions Raised by the Administrative Law Judge on behalf of AT&T Communications of the Pacific, Inc., July 17, 1998.

Before the Nebraska Public Service Commission, *In the Matter of the Commission, on its Own Motion, to Investigate US West Communications’ Cost to Establish Rates for Interconnection, Unbundled Network Elements, Transport and Termination and Resale Services*, Docket No. C-1415, Direct Testimony of Steven E. Turner on behalf of AT&T Local Services on behalf of TCG Omaha, August 12, 1998.

Before the Nebraska Public Service Commission, *In the Matter of the Commission, on its Own Motion, to Investigate US West Communications’ Cost to Establish Rates for Interconnection, Unbundled Network Elements, Transport and Termination and Resale Services*, Docket No. C-1415, Rebuttal Testimony of Steven E. Turner on behalf of AT&T Local Services on behalf of TCG Omaha, September 9, 1998.

Transcripts for hearings in the above matter are available from the Nebraska Public Service Commission.

Before the Public Utility Commission of Texas, *Application of AT&T Communications of the Southwest, Inc. for Compulsory Arbitration to Establish an Interconnection Agreement between AT&T and Southwestern Bell Telephone Company*, Docket No. 16226, *Petition of MCI Telecommunications Corporation and its Affiliate MCIMetro Access Transmission Services, Inc. for Arbitration and Request for Mediation under the Federal Telecommunications Act of 1996*, Docket No. 16285, Prefiled Direct Testimony of Steven E. Turner on behalf of AT&T Communications of the Southwest, Inc. & MCI Telecommunications Corporation and MCIMetro Access Transmission Services, Inc. Regarding Virtual Collocation and Entrance Facilities, September 1, 1998.

Before the Public Utility Commission of Texas, *Application of AT&T Communications of the Southwest, Inc. for Compulsory Arbitration to Establish an Interconnection Agreement between AT&T and Southwestern Bell Telephone Company*, Docket No. 16226, *Petition of MCI Telecommunications Corporation and its Affiliate MCIMetro Access Transmission Services, Inc. for Arbitration and Request for Mediation under the Federal Telecommunications Act of 1996*, Docket No. 16285, Rebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of the Southwest, Inc. & MCI Telecommunications Corporation and MCIMetro Access Transmission Services, Inc. Regarding Virtual Collocation and Entrance Facilities, September 15, 1998.

Before the Public Utility Commission of Texas, *Application of AT&T Communications of the Southwest, Inc. for Compulsory Arbitration to Establish an Interconnection Agreement between AT&T and Southwestern Bell Telephone Company*, Docket No. 16226, *Petition of MCI Telecommunications Corporation and its Affiliate MCIMetro Access Transmission Services, Inc. for Arbitration and Request for Mediation under the Federal Telecommunications Act of 1996*, Docket No. 16285, Prefiled Supplemental Direct Testimony of Steven E. Turner on behalf of AT&T Communications of the Southwest, Inc., MCI Telecommunications Corporation, and MCIMetro Access Transmission Services, Inc. Regarding SWBT's Late Filed DS3 Entrance Facility Cost Study, September 15, 1998.

Before the Public Utility Commission of Texas, *Application of AT&T Communications of the Southwest, Inc. for Compulsory Arbitration to Establish an Interconnection Agreement Between AT&T and Southwestern Bell Telephone Company*, Docket No. 16226, Affidavit of Steven E. Turner on behalf of AT&T Communications of the Southwest, Inc., MCI Telecommunications Corporation, and MCIMetro Access Transmission Services, Inc., October 30, 1998.

Transcripts for hearings in the above matter are available from the Texas Public Utility Commission.

Before the Washington Utilities and Transportation Commission, *In the Matter of the Pricing Proceeding for Interconnection, Unbundled Elements, Transport and Termination, and Resale*, Docket No. UT-960369, *In the Matter of the Pricing Proceeding for Interconnection, Unbundled Elements, Transport and Termination, and Resale for US West Communications, Inc.*, Docket No. UT-960370, *In the Matter of the Pricing Proceeding for Interconnection, Unbundled Elements, Transport and Termination, and Resale for GTE Northwest Incorporated*, Docket No. UT-960371, Collocation Response Testimony of Steven E. Turner on behalf of TCG Seattle, Electric Lightwave Inc., and NEXTLINK Washington, Inc., September 18, 1998.

Transcripts for hearings in the above matter are available from the Washington Utilities and Transportation Commission.

Before the Public Utility Commission of California, *Rulemaking on the Commission's Own Motion to Govern Open Access to Bottleneck Services and Establish a Framework for Network Architecture Development of Dominant Carrier Networks*, Docket No. R.93-04-003 (Filed April 7, 1993), *Investigation of the Commission's Own Motion to Open Access and Network Architecture Development of Dominant Carrier Networks*, Docket No. I.93-04-002 (Filed April 7, 1993) (Collocation Phase), Direct Testimony of Steven E. Turner on behalf of Accelerated Connections, Inc., AT&T Communications of California, Inc., Covad Communications Company, FirstWorld Communications, Inc., ICG Telecom Group, Inc., NEXTLINK California, MCI Telecommunications Corporation, MGC Communications, Inc., and WorldCom Technologies, Inc., December 18, 1998.

Before the Public Utility Commission of California, *Rulemaking on the Commission's Own Motion to Govern Open Access to Bottleneck Services and Establish a Framework for Network Architecture Development of Dominant Carrier Networks*, Docket No. R.93-04-003 (Filed April 7, 1993), *Investigation of the Commission's Own Motion to Open Access and Network Architecture Development of Dominant Carrier Networks*, Docket No. I.93-04-002 (Filed April 7, 1993) (Collocation Phase), Reply Testimony of Steven E. Turner on behalf of Accelerated Connections, Inc., AT&T Communications of California, Inc., Covad Communications Company, FirstWorld Communications, Inc., ICG Telecom Group, Inc., NEXTLINK California, MCI Telecommunications Corporation, MGC Communications, Inc., and WorldCom Technologies, Inc., January 11, 1999.

Before the Public Utility Commission of California, *Rulemaking on the Commission's Own Motion to Govern Open Access to Bottleneck Services and Establish a Framework for Network Architecture Development of Dominant Carrier Networks*, Docket No. R.93-04-003 (Filed April 7, 1993), *Investigation of the Commission's Own Motion to Open Access and Network Architecture Development of Dominant Carrier Networks*, Docket No. I.93-04-002 (Filed April 7, 1993) (Collocation Phase), Rebuttal Testimony of Steven E. Turner on behalf of Accelerated Connections, Inc., AT&T Communications of California, Inc., Covad Communications Company, FirstWorld Communications, Inc., ICG Telecom Group, Inc., NEXTLINK California, MCI Telecommunications Corporation, MGC Communications, Inc., and WorldCom Technologies, Inc., February 8, 1999.

Transcripts for hearings in the above matter are available from the California Public Utility Commission.

Before the Public Utility Commission of Texas, *Dispute before the Texas Public Utilities Commission Regarding EAS Issues and Prices for Unbundled Network Elements between ALT Communications, Inc. and Southwestern Bell Telephone Company*, Direct Testimony of Steven E. Turner, December 29, 1998.

Before the Public Utility Commission of Texas, *Dispute before the Texas Public Utilities Commission Regarding EAS Issues and Prices for Unbundled Network Elements between ALT Communications, Inc. and Southwestern Bell Telephone Company*, Rebuttal Testimony of Steven E. Turner, January 5, 1999.

Before the Public Utility Commission of Texas, *Dispute before the Texas Public Utilities Commission Regarding EAS Issues and Prices for Unbundled Network Elements between ALT Communications, Inc. and Southwestern Bell Telephone Company*, Affidavit of Gary P. Nutall and Steven E. Turner on behalf of Sage Telecom, Inc. and ALT Communications, L.L.C., February 5, 1999.

Before the Missouri Public Service Commission, *In the Matter of Southwestern Bell Telephone Company – Missouri's Compliance with Section 271 of the Federal Telecommunications Act of 1996*, Statement of Steven E. Turner on behalf of AT&T Communications of the Southwest, January 25, 1999.

Transcripts for hearings in the above matter are available from the Missouri Public Service Commission.

State of Michigan, Before the Michigan Public Service Commission, *In the Matter, on the Commission's Own Motion, to Consider the Total Service Long Run Incremental Costs and to Determine the Prices for All Access, Toll, and Basic Local Exchange Services Provided by Ameritech Michigan*, MPSC Case No. U-11831, Opening Affidavit of Steven E. Turner on behalf of AT&T Communications of Michigan, Inc., April 1, 1999.

State of Michigan, Before the Michigan Public Service Commission, *In the Matter, on the Commission's Own Motion, to Consider the Total Service Long Run Incremental Costs and to Determine the Prices for All Access, Toll, and Basic Local Exchange Services Provided by Ameritech Michigan*, MPSC Case No. U-11831, Reply Affidavit of Steven E. Turner on behalf of AT&T Communications of Michigan, Inc., June 17, 1999.

State of Michigan, Before the Michigan Public Service Commission, *In the Matter, on the Commission's Own Motion, to Consider the Total Service Long Run Incremental Costs and to Determine the Prices for All Access, Toll, and Basic Local Exchange Services Provided by Ameritech Michigan*, MPSC Case No. U-11831, Opening Affidavit of Steven E. Turner on behalf of AT&T Communications of Michigan, Inc. (Phase II), August 26, 1999.

State of Michigan, Before the Michigan Public Service Commission, *In the Matter, on the Commission's Own Motion, to Consider the Total Service Long Run Incremental Costs and to Determine the Prices for All Access, Toll, and Basic Local Exchange Services Provided by Ameritech Michigan*, MPSC Case No. U-11831, Reply Affidavit of Steven E. Turner on behalf of AT&T Communications of Michigan, Inc. (Phase II), September 30, 1999.

State of Illinois, Before the Illinois Commerce Commission, *In the Matter of the Commission's Review of the SBC – Ameritech Merger for the State of Illinois*, ICC Docket No. 98-0555, Testimony of Steven E. Turner on behalf of AT&T Communications of Illinois, Inc., July 9, 1999.

Transcripts for hearings in the above matter are available from the Illinois Commerce Commission.

Before the Public Utility Commission of Texas, *Dispute before the Texas Public Utilities Commission to Determine Costs for Reciprocal Compensation between Golden Harbor and Southwestern Bell Telephone Company*, Affidavit of Steven E. Turner on behalf of Golden Harbor, August 11, 1999.

Before the Public Utilities Commission of the State of California, *Notice of Intent to File Section 271 Application of SBC Communications Inc., Pacific Bell, and Pacific Bell Communications Inc., for Provision of In-Region, InterLATA Services in California*, Affidavit of Steven E. Turner on behalf of AT&T Communications of California, Inc., August 13, 1999.

Before the Public Utilities Commission of the State of Hawaii, *In the Matter of the Public Utilities Commission Instituting a Proceeding on Communications, Including an Investigation of the Communications Infrastructure of the State of Hawaii*, Docket No. 7702, Affidavit of Steven E. Turner, August 19, 1999.

Before the Public Utilities Commission of the State of Hawaii, *In the Matter of the Public Utilities Commission Instituting a Proceeding on Communications, Including an Investigation of the Communications Infrastructure of the State of Hawaii*, Docket No. 7702, Direct Testimony of Steven E. Turner on behalf of AT&T Communications of Hawaii, Inc. and Certificate of Service, June 2, 2000.

Before the Public Utilities Commission of the State of Hawaii, *In the Matter of the Public Utilities Commission Instituting a Proceeding on Communications, Including an Investigation of the Communications Infrastructure of the State of Hawaii*, Docket No. 7702, Reply Testimony of Steven E. Turner on behalf of AT&T Communications of Hawaii, Inc. and Certificate of Service, September 27, 2000.

Before the Public Utilities Commission of the State of Hawaii, *In the Matter of the Public Utilities Commission Instituting a Proceeding on Communications, Including an Investigation of the Communications Infrastructure of the State of Hawaii*, Docket No. 7702, Rebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of Hawaii, Inc. and Certificate of Service, November 1, 2000.

Before the Public Utilities Commission of the State of Hawaii, *In the Matter of the Public Utilities Commission Instituting a Proceeding on Communications, Including an Investigation of the Communications Infrastructure of the State of Hawaii*, Docket No. 7702, Surrebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of Hawaii, Inc. and Certificate of Service, December 13, 2000.

Before the Public Utilities Commission of the State of Hawaii, *In the Matter of the Public Utilities Commission Instituting a Proceeding on Communications, Including an Investigation of the Communications Infrastructure of the State of Hawaii*, Docket No. 7702, Declaration of Steven E. Turner, April 2001.

Transcripts for hearings in the above matter are available from the Public Utilities Commission of Hawaii.

Public Utilities Commission of Texas, *Investigation of Southwestern Bell Telephone Company's Entry into the InterLATA Telecommunications Market*, Project No. 16251, Affidavit of Steven E. Turner on behalf of AT&T Communications of the Southwest, Inc., October 27, 1999.

Transcripts for hearings in the above matter are available from the Texas Public Utilities Commission.

Before the Pennsylvania Public Utility Commission, *Pennsylvania Public Utility Commission Rhythm Links, Inc. vs. Bell Atlantic-Pennsylvania, Inc.*, Docket Nos. R-00994697 and R-00994697C0001, Rebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of Pennsylvania, Inc. and MCI-WorldCom Inc., December 21, 1999.

Before the Pennsylvania Public Utility Commission, *Pennsylvania Public Utility Commission Rhythm Links, Inc. vs. Bell Atlantic-Pennsylvania, Inc.*, Docket Nos. R-00994697 and R-00994697C0001, Surrebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of Pennsylvania, Inc. and MCI-WorldCom Inc., January 14, 2000.

Before the Pennsylvania Public Utility Commission, *Pennsylvania Public Utility Commission Rhythm Links, Inc. vs. Bell Atlantic-Pennsylvania, Inc.*, Docket Nos. R-00994697 and R-00994697C0001, Supplemental Surrebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of Pennsylvania, Inc. and MCI-WorldCom Inc., March 13, 2000.

Transcripts for hearings in the above matter are available from the Pennsylvania Public Utility Commission.

Before the Public Service Commission of Delaware, *In the Matter of the Application of Bell Atlantic-Delaware, Inc. for Approval of CLEC Collocation Interconnection Services (Filed May 28, 1999)*, PSC Docket No. 99-251, Direct Testimony of Steven E. Turner on behalf of AT&T Communications of Delaware, Inc., January 14, 2000.

Before the Public Service Commission of Delaware, *In the Matter of the Application of Bell Atlantic-Delaware, Inc. for Approval of CLEC Collocation Interconnection Services (Filed May 28, 1999)*, PSC Docket No. 99-251, Rebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of Delaware, Inc., February 24, 2000.

Before the Public Service Commission of Delaware, *In the Matter of the Application of Bell Atlantic-Delaware, Inc. for Approval of CLEC Collocation Interconnection Services (Filed May 28, 1999)*, PSC Docket No. 99-251, Surrebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of Delaware, Inc., March 31, 2000.

Commonwealth of Massachusetts, Department of Telecommunications and Energy, *Investigation by the Department on its Own Motion as to the Propriety of the Rates and Charges Set Forth in the Following Tariffs: M.D.T.E. Nos. 14 and 17, Filed with the Department on December 11, 1998, to become Effective January 10, 1999, by New England Telephone and Telegraph Company d/b/a Bell Atlantic – Massachusetts*, DTE 98-57, Direct Testimony of Steven E. Turner on behalf of AT&T Communications of New England, Inc., January 24, 2000.

Transcripts for hearings in the above matter are available from the Massachusetts Department of Telecommunications and Energy.

Before the Federal Communications Commission, *In the Matter of Application of SBC Communications Inc., Southwestern Bell Telephone Company, and Southwestern Bell Communications Services, Inc., d/b/a Southwestern Bell Long Distance for Provision of In-Region, InterLATA Services in Texas*, CC Docket No. 00-04, Declaration of A. Daniel Kelley and Steven E. Turner on behalf of AT&T Corp., January 31, 2000.

Before the Federal Communications Commission, *In the Matter of Application of SBC Communications Inc., Southwestern Bell Telephone Company, and Southwestern Bell Communications Services, Inc., d/b/a Southwestern Bell Long Distance for Provision of In-Region, InterLATA Services in Texas*, CC Docket No. 00-65, Supplemental Declaration of A. Daniel Kelley and Steven E. Turner on behalf of AT&T Corp., April 24, 2000.

State of Illinois, Before the Illinois Commerce Commission, *Illinois Commerce Commission on its Own Motion Revision of 83 Ill. Adm. Code 790*, ICC Docket No. 99-0511, Direct Testimony of Steven E. Turner on behalf of AT&T Communications of Illinois, Inc., March 3, 2000.

State of Illinois, Before the Illinois Commerce Commission, *Illinois Commerce Commission on its Own Motion Revision of 83 Ill. Adm. Code 790*, ICC Docket No. 99-0511, Rebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of Illinois, Inc., April 10, 2000.

State of Illinois, Before the Illinois Commerce Commission, *Illinois Commerce Commission on its Own Motion Revision of 83 Ill. Adm. Code 790*, ICC Docket No. 99-0511, Surrebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of Illinois, Inc., June 27, 2000.

Transcripts for hearings in the above matter are available from the Illinois Commerce Commission.

Before the Public Utility Commission of California, *Rulemaking on the Commission's Own Motion to Govern Open Access to Bottleneck Services and Establish a Framework for Network Architecture Development of Dominant Carrier Networks*, Docket No. R.93-04-003 (Filed April 7, 1993), *Investigation of the Commission's Own Motion to Open Access and Network Architecture Development of Dominant Carrier Networks*, Docket No. I.93-04-002 (Filed April 7, 1993), Supplemental Direct Testimony of Steven E. Turner on behalf of AT&T Communications of California, Inc., Covad Communications Company, FirstWorld Communications, Inc., ICG Telecom Group, Inc., WorldCom Inc., NEXTLINK California, and Rhythms Links, Inc., March 15, 2000.

Before the Public Utility Commission of California, *Rulemaking on the Commission's Own Motion to Govern Open Access to Bottleneck Services and Establish a Framework for Network Architecture Development of Dominant Carrier Networks*, Docket No. R.93-04-003 (Filed April 7, 1993), *Investigation of the Commission's Own Motion to Open Access and Network Architecture Development of Dominant Carrier Networks*, Docket No. I.93-04-002 (Filed April 7, 1993), Supplemental Reply Testimony of Steven E. Turner on behalf of AT&T Communications of California, Inc., Covad Communications Company, FirstWorld Communications, Inc., ICG Telecom Group, Inc., WorldCom Inc., NEXTLINK California, and Rhythms Links, Inc., April 20, 2000.

Before the Public Utility Commission of California, *Rulemaking on the Commission's Own Motion to Govern Open Access to Bottleneck Services and Establish a Framework for Network Architecture Development of Dominant Carrier Networks*, Docket No. R.93-04-003 (Filed April 7, 1993), *Investigation of the Commission's Own Motion to Open Access and Network Architecture Development of Dominant Carrier Networks*, Docket No. I.93-04-002 (Filed April 7, 1993), Supplemental Rebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of California, Inc., Covad Communications Company, FirstWorld Communications, Inc., ICG Telecom Group, Inc., WorldCom Inc., NEXTLINK California, and Rhythms Links, Inc., April 26, 2000.

Before the Public Utility Commission of California, *Rulemaking on the Commission's Own Motion to Govern Open Access to Bottleneck Services and Establish a Framework for Network Architecture Development of Dominant Carrier Networks*, Docket No. R.93-04-003 (Filed April 7, 1993), *Investigation of the Commission's Own Motion to Open Access and Network Architecture Development of Dominant Carrier Networks*, Docket No. I.93-04-002 (Filed April 7, 1993), Supplemental Testimony of Steven E. Turner on Collocation Outside the Central Office on behalf of AT&T Communications of California, Inc., Covad Communications Company, FirstWorld Communications, Inc., ICG Telecom Group, Inc., MCI WorldCom Inc., MGC Communications, Inc., New Edge Network, Inc. d/b/a New Edge Networks, NEXTLINK California, Northpoint Communications, Inc., and Rhythms Links, Inc., May 2, 2000.

Transcripts for hearings in the above matter are available from the California Public Utility Commission.

State of Illinois, Before the Illinois Commerce Commission, *Illinois Commerce Commission on its Own Motion – Investigation into the compliance of Illinois Bell Telephone Company with the order in Docket 96-0486/0569 Consolidated regarding the filing of tariffs and the accompanying cost studies for interconnection, unbundled network elements and local transport and termination and regarding end to end bundling issues*, Docket No. 98-0396, Direct Testimony of Steven E. Turner on behalf of AT&T Communications of Illinois, Inc., March 29, 2000.

State of Illinois, Before the Illinois Commerce Commission, *Illinois Commerce Commission on its Own Motion – Investigation into the compliance of Illinois Bell Telephone Company with the order in Docket 96-0486/0569 Consolidated regarding the filing of tariffs and the accompanying cost studies for interconnection, unbundled network elements and local transport and termination and regarding end to end bundling issues*, Docket No. 98-0396, Surrebutal Testimony of Steven E. Turner on behalf of AT&T Communications of Illinois, Inc., July 12, 2000.

Transcripts for hearings in the above matter are available from the Illinois Commerce Commission.

Before the Kansas Corporation Commission, *In the Matter of Southwestern Bell Telephone Company Filing Tariff Revisions to Establish a New Local Access Services Tariff for Physical Collocation Arrangements Furnished or Made by SWBT in the State of Kansas*, Docket No. 00-SWBT-733-TAR, Direct Testimony of Steven E. Turner on behalf of AT&T Communications of Southwest, Inc. and Birch Telecom of Kansas, Inc., April 24, 2000.

Before the Kansas Corporation Commission, *In the Matter of Southwestern Bell Telephone Company Filing Tariff Revisions to Establish a New Local Access Services Tariff for Physical Collocation Arrangements Furnished or Made by SWBT in the State of Kansas*, Docket No. 00-SWBT-733-TAR, Direct Testimony of Steven E. Turner on behalf of AT&T Communications of Southwest, Inc., Birch Telecom of Kansas, Inc., Adelphia Business Solutions of Kansas, LLC, @Link Networks, Inc., Bluestar Communications, Inc., DSLNet Communications, LLC, KMC Telecom II, Inc., New Edge Networks, Inc., and Vectris Telecom, Inc., September 26, 2000.

Before the Kansas Corporation Commission, *In the Matter of Southwestern Bell Telephone Company Filing Tariff Revisions to Establish a New Local Access Services Tariff for Physical Collocation Arrangements Furnished or Made by SWBT in the State of Kansas*, Docket No. 00-SWBT-733-TAR, Rebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of Southwest, Inc., Birch Telecom of Kansas, Inc., Adelphia Business Solutions of Kansas, LLC, @Link Networks, Inc., Bluestar Communications, Inc., DSLNet Communications, LLC, KMC Telecom II, Inc., New Edge Networks, Inc., and Vectris Telecom, Inc., November 9, 2000.

Transcripts for hearings in the above matter are available from the Kansas Corporation Commission.

Before the Public Utility Commission of Texas, *Petition of Southwestern Bell Telephone Company for Arbitration with AT&T Communications of Texas, L.P., TCG Dallas, and Teleport Communications, Inc. Pursuant to Section 252(B)(1) of the Federal Telecommunications Act of 1996*, Docket No. 22315, Direct Testimony of Steven E. Turner on behalf of AT&T Communications of Texas, L.P., TCG Dallas, and Teleport Communications Houston, Inc. – DSL DLP – All Issues, June 15, 2000.

Before the Public Utility Commission of Texas, *Petition of Southwestern Bell Telephone Company for Arbitration with AT&T Communications of Texas, L.P., TCG Dallas, and Teleport Communications, Inc. Pursuant to Section 252(B)(1) of the Federal Telecommunications Act of 1996*, Docket No. 22315, Rebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of Texas, L.P., TCG Dallas, and Teleport Communications Houston, Inc. – DSL DLP – All Issues, June 29, 2000.

Transcripts for hearings in the above matter are available from the Texas Public Utility Commission.

Before the State of New York Public Service Commission, *Proceeding on Motion of the Commission to Examine New York Telephone Company's Rates for Unbundled Network Elements*, Case No. 98-C-1357, Panel Reply Testimony of AT&T Communications of New York, Inc., June 26, 2000.

Before the State Corporation Commission of the State of Kansas, *In the Matter of Southwestern Bell Telephone Company – Kansas' Compliance with Section 271 of the Federal Telecommunications Act of 1996*, Docket No. 97-SWBT-411-GfT, Direct Testimony of Steven E. Turner on behalf of AT&T Communications of the Southwest, Inc. and TCG Kansas City, Inc., July 19, 2000.

Transcripts for hearings in the above matter are available from the Kansas Corporation Commission.

Before the Corporation Commission of the State of Oklahoma, *Application of the Attorney General of the State of Oklahoma, AT&T Communications of the Southwest, Inc., Brooks Fiber Communications of Oklahoma, Inc., Brooks Fiber Communications of Tulsa, Inc., Cox Oklahoma Telecom, Inc., MCI Telecommunications Corporation, and Sprint Communications, L.P. to Explore Southwestern Bell Telephone Company's Compliance with Section 271(c) of the Telecommunications Act of 1996*, Cause No. PUD 970000560, Direct Testimony of Steven E. Turner on behalf of AT&T Communications of the Southwest, Inc., August 17, 2000.

Transcripts for hearings in the above matter are available from the Oklahoma Corporation Commission.

Before the Public Service Commission of the State of Missouri, *Application of Southwestern Bell Telephone Company to Provide Notice of Intent to File an Application for Authorization to Provide In-Region InterLATA Services Originating in Missouri Pursuant to Section 271 of the Telecommunications Act of 1996*, Docket No. TO-99-727, Direct Testimony of Steven E. Turner on behalf of AT&T Communications of the Southwest, Inc., August 28, 2000.

Transcripts for hearings in the above matter are available from the Missouri Public Service Commission.

State of Illinois, Illinois Commerce Commission, *Illinois Bell Telephone Company Proposed Implementation of High Frequency Portion of Loop (HFPL)/Line Sharing Service*, ICC Docket No. 00-0393, Direct Testimony of Steven E. Turner on behalf of AT&T Communications of Illinois, Inc., September 1, 2000.

State of Illinois, Illinois Commerce Commission, *Illinois Bell Telephone Company Proposed Implementation of High Frequency Portion of Loop (HFPL)/Line Sharing Service*, ICC Docket No. 00-0393, Rebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of Illinois, Inc., October 4, 2000.

Transcripts for hearings in the above matter are available from the Illinois Commerce Commission.

Before the Nevada Public Utilities Commission, *In re filing by Nevada Bell of its Unbundled Network Elements (UNEs) Nonrecurring Cost Study pursuant to the Order in Docket No. 98-6004*, Docket No. 99-12033, *In re filing by AT&T Communications of Nevada, Inc. of its Nonrecurring Cost Study for Unbundled Network Elements (UNEs) purchased from Nevada Bell pursuant to the Order issued on Docket No. 98-6004*, Docket No. 99-12034, *In re petition of Nevada Bell for review and approval of its cost study and proposed Nonrecurring Cost Study pursuant to the Order in Docket No. 98-6004*, Docket No. 00-4001, Reply Testimony of Steven E. Turner on behalf of AT&T Communications of Nevada, Inc., September 1, 2000.

Before the Public Utilities Commission of Ohio, *In the Matter of the Application of Ameritech Ohio for Approval of Carrier to Carrier Tariff*, Case No. 00-1368-TP-ATA, Direct Testimony of Steven E. Turner on behalf of AT&T Communications of Ohio, Inc., October 10, 2000.

Before the Public Utilities Commission of Ohio, *In the Matter of the Application of Ameritech Ohio for Approval of Carrier to Carrier Tariff*, Case No. 00-1368-TP-ATA, Rebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of Ohio, Inc., January 16, 2001.

Transcripts for hearings in the above matter are available from the Public Utilities Commission of Ohio.

Before the Public Service Commission of the State of Arkansas, *In the Matter of the Application of Southwestern Bell Telephone Company for Authorization to Provide In-Region InterLATA Services Pursuant to Section 271 of the Telecommunications Act of 1996 and for Approval of the Arkansas 271 Interconnection Agreement*, Docket No. 00-211-U, Direct Testimony of Steven E. Turner on behalf of AT&T Communications of the Southwest, Inc., October 16, 2000.

Before the Public Utilities Commission of the State of Nevada, *In re petition of the Staff of the Public Utilities Commission to open a docket to investigate costing and pricing issues related to industry-wide collocation costs pursuant to the Telecommunications Act of 1996 and the Commission's Regulations*, Docket No. 99-11035, Direct Testimony of Steven E. Turner on behalf of AT&T Communications of Nevada, Inc., November 3, 2000.

Before the Public Utilities Commission of the State of Nevada, *In re petition of the Staff of the Public Utilities Commission to open a docket to investigate costing and pricing issues related to industry-wide collocation costs pursuant to the Telecommunications Act of 1996 and the Commission's Regulations*, Docket No. 99-11035, Responsive Testimony of Steven E. Turner on behalf of AT&T Communications of Nevada, Inc., December 15, 2000.

Before the Public Utilities Commission of the State of Nevada, *In re petition of the Staff of the Public Utilities Commission to open a docket to investigate costing and pricing issues related to industry-wide collocation costs pursuant to the Telecommunications Act of 1996 and the Commission's Regulations*, Docket No. 99-11035, Prepared Testimony Concerning Unresolved Issues of Steven E. Turner on behalf of AT&T Communications of Nevada, Inc., April 17, 2001.

Before the Public Utilities Commission of the State of Nevada, *In re petition of the Staff of the Public Utilities Commission to open a docket to investigate costing and pricing issues related to industry-wide collocation costs pursuant to the Telecommunications Act of 1996 and the Commission's Regulations*, Docket No. 99-11035, Affidavit of Steven E. Turner in Support of Opening Brief of AT&T Communications of Nevada, Inc. Regarding Unsettled Issues, May 18, 2001.

Transcripts for hearings in the above matter are available from the Nevada Public Utilities Commission.

Before the Federal Communications Commission, *In the Matter of Joint Application by SBC Communications Inc., Southwestern Bell Telephone Company, Southwestern Bell Communications Services, Inc. d/b/a Southwestern Bell Long Distance for Provision of In-Region, InterLATA Services in Kansas and Oklahoma*, CC Docket No. 00-217, Declaration of Steven E. Turner on behalf of AT&T Corp., November 12, 2000.

Before the Nevada Public Utilities Commission, *In re filing of Nevada Bell Telephone Company of revisions to Tariff PUCN No. C19 to add physical and virtual collocation as part of its access services tariff*, Docket No. 00-7006, Reply Testimony of Steven E. Turner on behalf of AT&T Communications of Nevada, Inc. and Advanced Telcom Group, Inc., November 30, 2000.

Before the Wisconsin Commerce Commission, Docket No. 6720-TI-161, *Investigation into Ameritech Wisconsin's Unbundled Network Elements*, Direct Testimony of Steven E. Turner on behalf of AT&T Communications of Wisconsin, Inc., KMC Telecom, Inc., McLeodUSA Telecommunications Services, Inc. Rhythms Links Inc., TDS metrocom, Inc. Time Warner Telecom, and WorldCom, Inc., December 15, 2000.

Before the Wisconsin Commerce Commission, Docket No. 6720-TI-161, *Investigation into Ameritech Wisconsin's Unbundled Network Elements*, Rebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of Wisconsin, Inc., KMC Telecom, Inc., McLeodUSA Telecommunications Services, Inc. Rhythms Links Inc., TDS metrocom, Inc. Time Warner Telecom, and WorldCom, Inc., January 22, 2001.

Before the Wisconsin Commerce Commission, Docket No. 6720-TI-161, *Investigation into Ameritech Wisconsin's Unbundled Network Elements*, Surrebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of Wisconsin, Inc., KMC Telecom, Inc., McLeodUSA Telecommunications Services, Inc. Rhythms Links Inc., TDS metrocom, Inc. Time Warner Telecom, and WorldCom, Inc., February 24, 2001.

Transcripts for hearings in the above matter are available from the Wisconsin Commerce Commission.

Before the Public Service Commission of the State of Missouri, *In the Matter of Southwestern Bell Telephone Company's Proposed Tariff PSC Mo. No. 42 Local Access Service Tariff Regarding Physical and Virtual Collocation*, Direct Testimony of Steven E. Turner on behalf of AT&T Communications of the Southwest, Inc., Birch Telecom of Missouri, Inc., TCG of Kansas City, Inc., and TCG of St. Louis, Inc., December 27, 2000.

Before the Public Service Commission of the State of Missouri, *In the Matter of Southwestern Bell Telephone Company's Proposed Tariff PSC Mo. No. 42 Local Access Service Tariff Regarding Physical and Virtual Collocation*, Rebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of the Southwest, Inc., Birch Telecom of Missouri, Inc., TCG of Kansas City, Inc., and TCG of St. Louis, Inc., February 1, 2001.

Before the Public Service Commission of the State of Missouri, *In the Matter of Southwestern Bell Telephone Company's Proposed Tariff PSC Mo. No. 42 Local Access Service Tariff Regarding Physical and Virtual Collocation*, Surrebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of the Southwest, Inc., Birch Telecom of Missouri, Inc., TCG of Kansas City, Inc., and TCG of St. Louis, Inc., March 8, 2001.

Transcripts for hearings in the above matter are available from the Missouri Public Service Commission.

Before the Florida Public Service Commission, *In the Matter of Petition by AT&T Communications of the Southern States d/b/a AT&T for Arbitration of Certain Terms and Conditions of a Proposed Agreement with BellSouth Communications, Inc. Pursuant to 47 U.S.C. Section 252*, Docket No. 000731-TP, Rebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of the Southern States, Inc. and TCG South Florida, Inc., January 3, 2001

Transcripts for hearings in the above matter are available from the Florida Public Service Commission.

Before the Georgia Public Service Commission, *In Re: Consideration of BellSouth Telecommunications, Inc.'s Entry into InterLATA Services Pursuant to Section 271 of the Telecommunications Act of 1996*, Docket No. 6863-U, Affidavit of Steven E. Turner on behalf of AT&T Communications of the Southern States, Inc., Teleport Communications Atlanta, Inc., and AT&T Broadband Phone of Georgia, L.L.C., May 31, 2001.

Transcripts for hearings in the above matter are available from the Georgia Public Service Commission.

Before the Alabama Public Service Commission, *In Re: Petition for Approval of a Statement of Generally Available Terms and Conditions Pursuant to §252(f) of the Telecommunications Act of 1996 and Notification of Intention to File a Petition for In-region InterLATA Authority with the FCC Pursuant to §271 of the Telecommunications Act of 1996*, Docket No. 25835, Rebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of the South Central States, Inc. and TCG Midsouth, Inc., June 5, 2001.

Transcripts for hearings in the above matter are available from the Alabama Public Service Commission.

Before the Louisiana Public Service Commission, *In re: Consideration and review of BellSouth Telecommunications, Inc.'s pre-application compliance with Section 271 of the Telecommunications Act of 1996, including but not limited to, the fourteen requirements set forth in Section 271(c)(2)(B) in order to verify compliance with Section 271 and provide a recommendation to the Federal Communications Commission regarding BellSouth Telecommunications, Inc.'s application to provide InterLATA services originating in-region*, Docket No. U-22252, Affidavit of Steven E. Turner on behalf of AT&T Communications of the Southern States, Inc., June 8, 2001.

Before the Mississippi Public Service Commission, *In the Matter Of: Investigation Concerning the Propriety of Provision of InterLATA Services by BellSouth Telecommunications, Inc. Pursuant to the Telecommunications Act of 1996*, Docket No. 97-AD-0321, Rebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of the South Central States, Inc. and TCG Midsouth, Inc., June 22, 2001.

State of Michigan, Before the Michigan Public Service Commission, *In the matter, on the Commission's own motion, to consider Ameritech Michigan's compliance with the competitive checklist in Section 271 of the Telecommunications Act of 1996*, Case No. U-12320, Affidavit of Steven E. Turner on behalf of AT&T Communications of Michigan, Inc. and TCG Detroit, June 29, 2001.

Before the Kentucky Public Service Commission, *In the Matter of Application of BellSouth Telecommunications, Inc. to Provide In-Region InterLATA Services Pursuant to Section 271 of the Telecommunications Act of 1996*, Docket No. 2001-105, Rebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of the South Central States, Inc. and TCG Midsouth, Inc., July 6, 2001.

Transcripts for hearings in the above matter are available from the Kentucky Public Service Commission.

Commonwealth of Massachusetts Department of Telecommunications and Energy, Docket No. DTE 01-20, *Investigation by the Department of Telecommunications and Energy on its own Motion into the Appropriate Pricing, based upon Total Element Long-Run Incremental Costs, for Unbundled Network Elements and Combinations of Unbundled Network Elements, and the Appropriate Avoided Cost Discount for Verizon New England, Inc. d/b/a Verizon Massachusetts' Resale Services in the Commonwealth of Massachusetts*, Rebuttal Testimony of Steven E. Turner on behalf of AT&T and WorldCom, July 18, 2001.

Commonwealth of Massachusetts Department of Telecommunications and Energy, Docket No. DTE 01-20, *Investigation by the Department of Telecommunications and Energy on its own Motion into the Appropriate Pricing, based upon Total Element Long-Run Incremental Costs, for Unbundled Network Elements and Combinations of Unbundled Network Elements, and the Appropriate Avoided Cost Discount for Verizon New England, Inc. d/b/a Verizon Massachusetts' Resale Services in the Commonwealth of Massachusetts*, Surrebuttal Testimony of Steven E. Turner on behalf of AT&T and WorldCom, December 17, 2001.

Commonwealth of Massachusetts Department of Telecommunications and Energy, Docket No. DTE 01-20, *Investigation by the Department of Telecommunications and Energy on its own Motion into the Appropriate Pricing, based upon Total Element Long-Run Incremental Costs, for Unbundled Network Elements and Combinations of Unbundled Network Elements, and the Appropriate Avoided Cost Discount for Verizon New England, Inc. d/b/a Verizon Massachusetts' Resale Services in the Commonwealth of Massachusetts*, Affidavit of Steven E. Turner on behalf of AT&T Communications of New England, Inc., March 1, 2002.

Commonwealth of Massachusetts Department of Telecommunications and Energy, Docket No. DTE 01-20, *Investigation by the Department of Telecommunications and Energy on its own Motion into the Appropriate Pricing, based upon Total Element Long-Run Incremental Costs, for Unbundled Network Elements and Combinations of Unbundled Network Elements, and the Appropriate Avoided Cost Discount for Verizon New England, Inc. d/b/a Verizon Massachusetts' Resale Services in the Commonwealth of Massachusetts*, Direct Testimony of Steven E. Turner on Reconsideration on behalf of AT&T and WorldCom, October 2, 2002.

Commonwealth of Massachusetts Department of Telecommunications and Energy, Docket No. DTE 01-20, *Investigation by the Department of Telecommunications and Energy on its own Motion into the Appropriate Pricing, based upon Total Element Long-Run Incremental Costs, for Unbundled Network Elements and Combinations of Unbundled Network Elements, and the Appropriate Avoided Cost Discount for Verizon New England, Inc. d/b/a Verizon Massachusetts' Resale Services in the Commonwealth of Massachusetts*, Rebuttal Testimony of Steven E. Turner on Reconsideration on behalf of AT&T and WorldCom, October 16, 2002.

Transcripts for hearings in the above matter are available from the Commonwealth of Massachusetts Department of Telecommunications and Energy.

Before the Florida Public Service Commission, *In the Matter of Consideration of BellSouth Telecommunications, Inc.'s Entry into InterLATA Services Pursuant to Section 271 of the Federal Communications Act of 1996*, Docket No. 960786-TL, Rebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of the Southern States, Inc., AT&T Broadband Phone of Florida, LLC, and TCG South Florida, Inc., July 20, 2001.

Transcripts for hearings in the above matter are available from the Florida Public Service Commission.

Before the Federal Communications Commission, CC Docket Nos. 00-218, 00-249, and 00-251, *In the Matter of Petition of WorldCom, Inc. Pursuant to Section 252(e)(5) of the Communications Act for Expedited Preemption of the Jurisdiction of the Virginia State Corporation Commission Regarding Interconnection Disputes with Verizon Virginia Inc., and for Expedited Arbitration, et al.*, Rebuttal Testimony of Steven E. Turner on behalf of AT&T and WorldCom, August 27, 2001.

Before the Federal Communications Commission, CC Docket Nos. 00-218, 00-249, and 00-251, *In the Matter of Petition of WorldCom, Inc. Pursuant to Section 252(e)(5) of the Communications Act for Expedited Preemption of the Jurisdiction of the Virginia State Corporation Commission Regarding Interconnection Disputes with Verizon Virginia Inc., and for Expedited Arbitration, et al.*, Surrebuttal Testimony of Steven E. Turner on behalf of AT&T and WorldCom, September 20, 2001.

Transcripts for hearings in the above matter are available from the Federal Communications Commission.

State of Ohio, Before the Public Utilities Commission of Ohio, *In the Matter of the Commission Ordered Investigation of an Elective Alternative Regulation Framework for Incumbent Local Exchange Companies*, Case No. 00-1532-TP-COI, Testimony of Steven E. Turner on behalf of AT&T Communications of Ohio, Inc. and TCG Ohio, September 10, 2001.

Transcripts for hearings in the above matter are available from the Ohio Public Utilities Commission.

Before the North Carolina Utilities Commission, Docket No. P-55, Sub 1022, Rebuttal Testimony of Steven E. Turner, on behalf of AT&T Communications of the Southern States, Inc., September 10, 2001.

Transcripts for hearings in the above matter are available from the North Carolina Utilities Commission.

State of Ohio, Before the Public Utilities Commission of Ohio, Case No. 00-942-TP-COI, *In the Matter of the Further Investigation into Ameritech Ohio's Entry into In-Region InterLATA Service under Section 271 of the Telecommunications Act of 1996*, Testimony of Steven E. Turner on behalf of AT&T Communications of Ohio, Inc. and TCG Ohio, September 17, 2001.

Transcripts for hearings in the above matter are available from the Ohio Public Utilities Commission.

Before the Indiana Utility Regulatory Commission, Cause No. 40611-S1, *In the Matter of the Commission Investigation and Generic Proceeding on Ameritech Indiana's Rates for Interconnection, Service, Unbundled Elements, and Transport and Termination Under the Telecommunications Act of 1996 and Related Indiana Statutes*, Direct Testimony of Steven E. Turner on behalf of AT&T Communications of Indiana, G.P. and WorldCom, Inc., October 15, 2001.

Before the Indiana Utility Regulatory Commission, Cause No. 40611-S1, *In the Matter of the Commission Investigation and Generic Proceeding on Ameritech Indiana's Rates for Interconnection, Service, Unbundled Elements, and Transport and Termination Under the Telecommunications Act of 1996 and Related Indiana Statutes*, Rebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of Indiana, G.P. and WorldCom, Inc., November 20, 2001.

Before the Indiana Utility Regulatory Commission, Cause No. 40611-S1, *In the Matter of the Commission Investigation and Generic Proceeding on Ameritech Indiana's Rates for Interconnection, Service, Unbundled Elements, and Transport and Termination Under the Telecommunications Act of 1996 and Related Indiana Statutes*, Surrebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of Indiana, G.P. and WorldCom, Inc., December 11, 2001.

Transcripts for hearings in the above matter are available from the Indiana Utility Regulatory Commission.

Before the Public Service Commission of Missouri, Case No. TO-2001-438, *In the Matter of the Determination of Prices, Terms, and Conditions of Certain Unbundled Network Elements*, Rebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of the Southwest, Inc., WorldCom, Birch Telecom of Missouri, Inc., XO Missouri, Inc., NuVox Communications of Missouri, Inc., McLeodUSA Telecommunications, Inc., TCG Kansas City, Inc., and TCG of St. Louis, Inc., October 26, 2001.

Transcripts for hearings in the above matter are available from the Public Service Commission of Missouri.

Before the Public Utility Commission of Texas, Docket No. 24542, *Petition of MCIMetro Access Transmission Services, LLC, Sage Telecom, Inc., Texas UNE Platform Coalition, McLeodUSA Telecommunications Services, Inc., and AT&T Communications of Texas, L.P. for Arbitration with Southwestern Bell Telephone Company under the Telecommunications Act of 1996*, Direct Testimony of Steven E. Turner on behalf of MCIMetro Access Transmission Services, LLC, December 7, 2001.

Before the Public Utility Commission of Texas, Docket No. 24542, *Petition of MCIMetro Access Transmission Services, LLC, Sage Telecom, Inc., Texas UNE Platform Coalition, McLeodUSA Telecommunications Services, Inc., and AT&T Communications of Texas, L.P. for Arbitration with Southwestern Bell Telephone Company under the Telecommunications Act of 1996*, Rebuttal Testimony of Steven E. Turner on behalf of MCIMetro Access Transmission Services, LLC, December 21, 2001.

Before the Public Utility Commission of Texas, Docket No. 24542, *Petition of MCIMetro Access Transmission Services, LLC, Sage Telecom, Inc., Texas UNE Platform Coalition, McLeodUSA Telecommunications Services, Inc., and AT&T Communications of Texas, L.P. for Arbitration with Southwestern Bell Telephone Company under the Telecommunications Act of 1996*, Affidavit of Steven E. Turner on behalf of MCIMetro Access Transmission Services, LLC, March 7, 2002.

Transcripts for hearings in the above matter are available from the Public Utility Commission of Texas.

Before the Missouri Public Service Commission, Case No. TO-2002-222, *Petition of MCI Metro Access Transmission Services, LLC, Brooks Fiber Communications of Missouri, Inc., and MCI WorldCom Communications, Inc. for Arbitration of an Interconnection Agreement with Southwestern Bell Telephone Company under the Telecommunications Act of 1996*, Direct Testimony of Steven E. Turner, December 18, 2001.

Before the Missouri Public Service Commission, Case No. TO-2002-222, *Petition of MCI Metro Access Transmission Services, LLC, Brooks Fiber Communications of Missouri, Inc., and MCI WorldCom Communications, Inc. for Arbitration of an Interconnection Agreement with Southwestern Bell Telephone Company under the Telecommunications Act of 1996*, Rebuttal Testimony of Steven E. Turner, January 7, 2002.

Transcripts for hearings in the above matter are available from the Missouri Public Service Commission.

State of Illinois, Illinois Commerce Commission, *Illinois Commerce Commission on Its Own Motion Investigation Concerning Illinois Bell Telephone Company's Compliance with Section 271 of the Telecommunications Act of 1996*, Docket No. 01-0662, Direct Testimony of Steven E. Turner on behalf of AT&T Communications of Illinois, Inc., TCG Chicago, TCG Illinois, and TCG St. Louis, March 20, 2002.

State of Illinois, Illinois Commerce Commission, *Illinois Commerce Commission on Its Own Motion Investigation Concerning Illinois Bell Telephone Company's Compliance with Section 271 of the Telecommunications Act of 1996*, Docket No. 01-0662, Rebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of Illinois, Inc., TCG Chicago, TCG Illinois, and TCG St. Louis, May 20, 2002.

Transcripts for hearings in the above matter are available from the Illinois Commerce Commission.

Before the Georgia Public Service Commission, Docket No. 14361-U, *In Re: Generic Proceeding to Review Cost Studies, Methodologies, Pricing Policies and Cost-Based Rates for Interconnection and Unbundling of BellSouth Telecommunications, Inc.'s Network*, Rebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of the South, Inc. and WorldCom, Inc., April 5, 2002.

Transcripts for hearings in the above matter are available from the Georgia Public Service Commission.

In the District Court of Collin County, Texas 401st Judicial District, *The Telephone Connection of Los Angeles Inc., Plaintiff, vs. Lucent Technologies Inc., Excel Switching Corporation, Intercall Communications and Consulting Inc., Nathan Franzmeier, and Emergent Network Solutions, Inc., Defendants*, Cause No. 401-1014-01, Responsive Analysis on Preliminary Damages Report of Mr. George P. Roach by Kaleo Consulting – Steven E. Turner, June 11, 2002.

In the District Court of Collin County, Texas 401st Judicial District, *The Telephone Connection of Los Angeles Inc., Plaintiff, vs. Lucent Technologies Inc., Excel Switching Corporation, Intercall Communications and Consulting Inc., Nathan Franzmeier, and Emergent Network Solutions, Inc., Defendants*, Cause No. 401-1014-01, Responsive Analysis on Preliminary Damages Report of Mr. George P. Roach by Kaleo Consulting – Steven E. Turner, August 29, 2002.

State of Wisconsin, Before the Public Service Commission of Wisconsin, Case No. 6720-TI-170, *In the matter, on the Commission's own motion, to consider Ameritech Wisconsin's compliance with the competitive checklist in Section 271 of the federal Telecommunications Act of 1996*, Affidavit of Steven E. Turner on behalf of AT&T Communications of Wisconsin, Inc. and TCG Milwaukee, July 2, 2002.

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Transcripts for hearings in the above matter are available from the Oklahoma Corporation Commission.

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Before the Georgia Public Service Commission, Docket No. 17749-U, *In re: Federal Communications Commission's Order Regarding the Impairment of Local Switching for Mass Market Customers*, Supplemental Direct Testimony of Steven E. Turner on behalf of AT&T Communications of the Southern States, LLC, December 26, 2003.

Before the Georgia Public Service Commission, Docket No. 17749-U, *In re: Federal Communications Commission's Order Regarding the Impairment of Local Switching for Mass Market Customers*, Surrebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of the Southern States, LLC, February 18, 2004.

Transcripts for hearings in the above matter are available from the Georgia Public Service Commission.

Before the North Carolina Public Service Commission, Docket No. P-100, SUB 133Q, *In the Matter of: Triennial Review Order – UNE-P*, Direct Testimony of Steven E. Turner on behalf of AT&T Communications of the Southern States, LLC, January 5, 2004.

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Before the Alabama Public Service Commission, Docket No. 29054, *In re: Implementation of Federal Communications Commission's Triennial Review Order (Phase II – Local Switching for Mass Market Customers)*, Direct Testimony of Steven E. Turner on behalf of AT&T Communications of the Southern States, LLC, January 20, 2004.

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Before the Michigan Public Service Commission, Case No. U-13531, *In the Matter, on the Commission's Own Motion, to Review the Costs of Telecommunications Services Provided by SBC Ameritech Michigan*, Opening Affidavit of Brian F. Pitkin and Steven E. Turner on behalf of AT&T Communications of Michigan, Inc. and TCG Detroit, January 20, 2004.

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Before the Public Utilities Commission of Ohio, Case No. 04-34-TP-COI, *In the Matter of the Implementation of the Federal Communications Commission's Triennial Review Regarding Local Circuit Switching in SBC Ohio's Mass Market*, Direct Testimony of Steven E. Turner on behalf of AT&T Communications of Ohio, Inc. and TCG Ohio, January 27, 2004.

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Before the Public Service Commission of South Carolina, Docket No. 2003-326-C, *IN RE: Analysis of Continued Availability of Unbundled Local Switching for Mass Market Customers Pursuant to the Federal Communications Commission's Triennial Review Order*, Surrebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of the Southern States, LLC, March 31, 2004.

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Before the Public Utility Commission of Texas, Docket No. 28607, *Impairment Analysis of Local Circuit Switching for the Mass Market*, Direct Testimony of Steven E. Turner on behalf of AT&T Communications of the Southwest, Inc., February 9, 2004.

Before the Public Utility Commission of Texas, Docket No. 28607, *Impairment Analysis of Local Circuit Switching for the Mass Market*, Rebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of the Southwest, Inc., March 19, 2004.

Before the Public Service Commission of the Commonwealth of Kentucky, Case No. 2003-00379, *Review of the Federal Communications Commission's Triennial Review Order Regarding Unbundling Requirements for Individual Network Elements*, Direct Testimony of Steven E. Turner on behalf of AT&T Communications of the South Central States, LLC, February 11, 2004.

Before the Public Service Commission of the Commonwealth of Kentucky, Case No. 2003-00379, *Review of the Federal Communications Commission's Triennial Review Order Regarding Unbundling Requirements for Individual Network Elements*, Surrebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of the South Central States, LLC, April 13, 2004.

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Before the Indiana Utility Regulatory Commission, Cause No. 42500-SI, *In the Matter of the Indiana Utility Regulatory Commission's Investigation of Matters Related to the Federal Communication Commission's Report and Order on Remand and Further Notice of Proposed Rulemaking in CC Docket Nos. 01-338, 96-98, and 98-147*, Rebuttal Testimony of Steven E. Turner on behalf of AT&T Communications of Indiana, G.P. and TCG Indianapolis, March 15, 2004.

Before the Oklahoma Corporation Commission, Cause No. PUD 200300646, *Application of Joyce E. Davidson, Director of the Public Utilities Division, Oklahoma Corporation Commission, to Initiate a Proceeding for the Implementation of the Federal Communications Commission's Triennial Review Order*, Direct Testimony of Steven E. Turner on behalf of AT&T Communications of the Southwest, Inc. – Track II – Batch Cut, March 22, 2004.

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Transcripts for hearings in the above matter are available from the Public Service Commission of Wisconsin.

Before the Public Utilities Commission of the State of California, Rulemaking 93-04-003 and Investigation 93-04-002, *Rulemaking on the Commission's Own Motion to Govern Open Access to Bottleneck Services and Establish a Framework for Network Architecture Development of Dominant Carrier Networks and Investigation on the Commission's Own Motion into Open Access and Network Architecture Development of Dominant Carrier Networks*, Declaration of John C. Donovan, Brian F. Pitkin, and Steven E. Turner in Support of Reply Comments of Joint Commentors, August 6, 2004.

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Before the State Corporation Commission of the State of Kansas, Docket No. 04-SWBT-544-COM, *In the Matter of the Complaint of South Central Wireless, Inc. d/b/a SC Telcom Against Southwestern Bell Telephone, L.P. d/b/a SBC Kansas for Overcharges Related to Power Use for Collocation*, Direct Testimony of Steven E. Turner, April 15, 2005.

Before the State Corporation Commission of the State of Kansas, Docket No. 04-SWBT-544-COM, *In the Matter of the Complaint of South Central Wireless, Inc. d/b/a SC Telcom Against Southwestern Bell Telephone, L.P. d/b/a SBC Kansas for Overcharges Related to Power Use for Collocation*, Rebuttal Testimony of Steven E. Turner, June 3, 2005.

Transcripts for hearings in the above matter are available from the State Corporation Commission of Kansas.

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In the United States District Court – Eastern District of Virginia – Alexandria Division, *MCI-WorldCom Network Services, Inc., Plaintiff/Counterclaim Defendant, v. PAETEC Communications, Inc., Defendant/Counterclaim Plaintiff*, Civil Action No. 1:04-VC-1479, Affidavit of Steven E. Turner, July 15, 2005.

In the United States District Court – Central District of California, *U.S. TelePacific Corp., d/b/a TelePacific Communications, a California corporation, Plaintiff, v. Qwest Communications Corporation, a Delaware corporation, Defendant*, Case No. CV-04-10460 (PJWx), Preliminary Expert Witness Report, August 15, 2005.

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State of Illinois, Illinois Commerce Commission, *In the Matter of the Proposed Revision to the Collocation Tariffs to Eliminate Charges for DC Power on a Per Kilowatt-hour Basis and to Implement Charging on a Per Amp Basis*, ICC Docket No. 05-0675, Direct Testimony of Steven E. Turner on behalf of Covad Communications Company, McLeodUSA Telecommunications Services, Inc., MPower Communications Corp., and XO Communications Services, Inc., February 2, 2006.

State of Illinois, Illinois Commerce Commission, *In the Matter of the Proposed Revision to the Collocation Tariffs to Eliminate Charges for DC Power on a Per Kilowatt-hour Basis and to Implement Charging on a Per Amp Basis*, ICC Docket No. 05-0675, Rebuttal Testimony of Steven E. Turner on behalf of Covad Communications Company, McLeodUSA Telecommunications Services, Inc., MPower Communications Corp., and XO Communications Services, Inc., February 22, 2006.

State of Illinois, Illinois Commerce Commission, *In the Matter of the Proposed Revision to the Collocation Tariffs to Eliminate Charges for DC Power on a Per Kilowatt-hour Basis and to Implement Charging on a Per Amp Basis*, ICC Docket No. 05-0675, Surrebuttal Testimony of Steven E. Turner on behalf of Covad Communications Company, McLeodUSA Telecommunications Services, Inc., MPower Communications Corp., and XO Communications Services, Inc., March 29, 2006.

Transcripts for hearings in the above matter are available from the Illinois Commerce Commission.

Before the Missouri Public Service Commission, *Petition of Socket Telecom, LLC for Compulsory Arbitration of Interconnection Agreements with CenturyTel of Missouri, LLC and Spectra Communications, LLC Pursuant to Section 252(b)(1) of the Telecommunications Act of 1996*, Case No. TO-2006-0299, Confidential Direct Testimony of Steven E. Turner on behalf of Socket Telecom, LLC, March 21, 2006.

Before the Missouri Public Service Commission, *Petition of Socket Telecom, LLC for Compulsory Arbitration of Interconnection Agreements with CenturyTel of Missouri, LLC and Spectra Communications, LLC Pursuant to Section 252(b)(1) of the Telecommunications Act of 1996*, Case No. TO-2006-0299, Confidential Rebuttal Testimony of Steven E. Turner on behalf of Socket Telecom, LLC, April 6, 2006.

Before the Missouri Public Service Commission, *Petition of Socket Telecom, LLC for Compulsory Arbitration of Interconnection Agreements with CenturyTel of Missouri, LLC and Spectra Communications, LLC Pursuant to Section 252(b)(1) of the Telecommunications Act of 1996*, Case No. TO-2006-0299, Confidential Supplemental Rebuttal Testimony of Steven E. Turner on behalf of Socket Telecom, LLC, May 31, 2006.

Transcripts for hearings in the above matter are available from the Missouri Public Service Commission.

Commonwealth of Kentucky, Before the Public Service Commission, *Petition of: Dialog Telecommunications for Arbitration of Certain Terms and Conditions of Proposed Agreement with BellSouth Telecommunications, Inc. Concerning Interconnection under the Telecommunications Act of 1996*, Case No. 2006-00099, Direct Testimony of Steven E. Turner on behalf of Dialog Telecommunications, July 26, 2006.

Commonwealth of Kentucky, Before the Public Service Commission, *Petition of: Dialog Telecommunications for Arbitration of Certain Terms and Conditions of Proposed Agreement with BellSouth Telecommunications, Inc. Concerning Interconnection under the Telecommunications Act of 1996*, Case No. 2006-00099, Rebuttal Testimony of Steven E. Turner on behalf of Dialog Telecommunications, August 9, 2006.

Commonwealth of Kentucky, Before the Public Service Commission, *In the Matter of: Petition of SouthEast Telephone, Inc. for Arbitration of Certain Terms and Conditions of Proposed Agreement with BellSouth Telecommunications, Inc., Concerning Interconnection Under the Telecommunications Act of 1996*, Case No. 2006-00316, Direct Testimony of Steven E. Turner on behalf of SouthEast Telephone, Inc., November 3, 2006.

Commonwealth of Kentucky, Before the Public Service Commission, *In the Matter of: Petition of SouthEast Telephone, Inc. for Arbitration of Certain Terms and Conditions of Proposed Agreement with BellSouth Telecommunications, Inc., Concerning Interconnection Under the Telecommunications Act of 1996*, Case No. 2006-00316, Rebuttal Testimony of Steven E. Turner, December 15, 2006.

Transcripts for hearings in the above matter are available from the Kentucky Public Service Commission.

Before the State Corporation Commission of the State of Kansas, *In the Matter of a Complaint Regarding Failure of Rural Telephone Service Company, Inc., to Provide Interconnection*, Docket No. 07-RRLT-717-COM, Direct Testimony of Steven E. Turner on behalf of Rural Telephone Service Company, Inc., February 7, 2007.

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Commonwealth of Puerto Rico, Telecommunications Regulatory Board of Puerto Rico, *In the matter of WORLDNET TELECOMMUNICATIONS, INC. Petition for arbitration pursuant to Section 47 U.S.C. 252(b) of the Federal Communications Act and Section 5(b), Chapter III, of the Puerto Rico Telecommunications Act, regarding Interconnection rates, terms and conditions with PUERTO RICO TELEPHONE COMPANY*, Case No. JRT-2007-AR-0001, Declaration of Steven E. Turner and Brian F. Pitkin on behalf of WorldNet Telecommunications, Inc., May 4, 2007.

Commonwealth of Puerto Rico, Telecommunications Regulatory Board of Puerto Rico, *In the matter of WORLDNET TELECOMMUNICATIONS, INC. Petition for arbitration pursuant to Section 47 U.S.C. 252(b) of the Federal Communications Act and Section 5(b), Chapter III, of the Puerto Rico Telecommunications Act, regarding Interconnection rates, terms and conditions with PUERTO RICO TELEPHONE COMPANY*, Case No. JRT-2007-AR-0001, Direct Testimony of Steven E. Turner on behalf of WorldNet, May 10, 2007.

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