MILLER & MARTIN PLLC
ATTORNEYS AT LAW

1200 ONE NASHVILLE PLACE
150 FOURTH AVENUE NORTH
NASHVILLE, TENNESSEE 37219-2433
(615) 244-9270
FAX (615) 256-8197 OR (615) 744-8466

Melvin J. Malone
Direct Dial (615) 744-8572
mmalone@millermartin.com

May 15, 2007

Honorable Sara Kyle, Chairman
c/o Sharla Dillon, Docket & Records Manager
Tennessee Regulatory Authority
460 James Robertson Parkway
Nashville, TN 37243-0505

RE: In the Matter of: Tennessee Rural Independent Coalition Petition for Suspension and Modification Pursuant to 47 U.S.C. Section 251(f)(2)
TRA Docket No. 06-00228

Dear Chairman Kyle:

Pursuant to the Procedural Schedule in the above-captioned matter, as amended by the Hearing Officer, enclosed please find the following submissions on behalf of the CMRS Providers: (1) the original and thirteen (13) copies of the Pre-Filed Testimony of Randy G. Farrar; (2) the original and thirteen (13) copies of the Pre-Filed Testimony of W. Craig Conwell; and (3) the original and thirteen (13) copies of the Pre-Filed Testimony of Dr. Christopher C. Klein.

The testimony of Mr. Farrar and Mr. Conwell contains **CONFIDENTIAL** information. In accordance with the Protective Order, the CMRS Providers are submitting 2 versions of the Pre-Filed Testimony of both Randy G. Farrar and W. Craig Conwell - a redacted version and a confidential version. The confidential versions of the foregoing are being submitted **UNDER SEAL** as **CONFIDENTIAL AND PROPRIETARY INFORMATION**.

Please note that the oath attached to Mr. Farrar's testimony is not the original. The original oath for Mr. Farrar and the oath for Mr. Conwell will be submitted at a later time.

An additional copy of this filing is enclosed to be "File Stamped" for our records. Parties of Record have been served.

If you have any questions or require additional information, please let me know.

Very truly yours,

Melvin J. Malone

cc: Parties of Record

PUBLIC REDACTED VERSION

BEFORE THE

TENNESSEE REGULATORY AUTHORITY

In the Matter of:	)	
	)	
Tennessee Rural Independent	)	**Docket No. 06-00228**
Coalition Petition for Suspension	)	
And Modification Pursuant to	)	
47 U.S.C Section 251(f)(2)	)	

DIRECT TESTIMONY

OF

RANDY G. FARRAR

ON BEHALF OF

SPRINT SPECTRUM L.P. AND SPRINTCOM, INC.
D/B/A SPRINT PCS

AND THE CMRS PROVIDERS

DIRECT TESTIMONY

I. INTRODUCTION

Q. Please state your name, occupation, and business address.

A. My name is Randy G. Farrar. My title is Senior Manager – Interconnection Support for Sprint United Management, the management subsidiary of Sprint Nextel Corporation ("Sprint Nextel"). My business address is 6450 Sprint Parkway, Overland Park, Kansas 66251.

Q. What is your educational background?

A. I received a Bachelor of Arts degree from The Ohio State University, Columbus, Ohio, with a major in history. Simultaneously, I completed a program for a major in economics. Subsequently, I received a Master of Business Administration degree, with an emphasis on market research, also from The Ohio State University.

Q. Please summarize your work experience.

A. I have worked for a subsidiary of Sprint Nextel (or of its Sprint predecessor in interest) since 1983 in the following capacities:

- 2005 to present: Senior Manager – Interconnection Support. I provide interconnection support, where I provide financial, economic, and policy analysis concerning interconnection and reciprocal compensation issues.

- 1997 to 2005: Senior Manager – Network Costs. I was an instructor for numerous training sessions designed to support corporate policy on pricing and costing theory, and to educate and support the use of various costing models. I was responsible for the development and support of switching, transport, and financial cost models concerning reciprocal compensation, unbundled network elements, and wholesale discounts.
- 1992 to 1997: Manager - Network Costing and Pricing. I performed financial analyses for various business cases, analyzing the profitability of entering new markets and expanding existing markets, including Custom Calling, Centrex, CLASS and Advanced Intelligent Network features, CPE products, Public Telephone and COCOT, and intraLATA toll. Within this time frame, I was a member of the USTA's Economic Analysis Training Work Group (1994 to 1995).
- 1987 to 1992: Manager - Local Exchange Costing. Within this time frame I was a member of the United States Telephone Association's (USTA) New Services and Technologies Issues Subcommittee (1989 to 1992).
- 1986 to 1987: Manager - Local Exchange Pricing. I investigated alternate forms of pricing and rate design, including usage sensitive rates, extended area service alternatives, intraLATA toll pricing, and lifeline rates.

- 1983 to 1986: Manager - Rate of Return, which included presentation of written and/or oral testimony before state public utilities commissions in Iowa, Nebraska, South Carolina, and Oregon.

I was employed by the Public Utilities Commission of Ohio from 1978 to 1983. My positions were Financial Analyst (1978 - 1980) and Senior Financial Analyst (1980-1983). My duties included the preparation of Staff Reports of Investigation concerning rate of return and cost of capital. I also designed rate structures, evaluated construction works in progress, measured productivity, evaluated treatment of canceled plant, and performed financial analyses for electric, gas, telephone, and water utilities. I presented written and oral testimony on behalf of the Commission Staff in over twenty rate cases.

Q. What are your responsibilities in your current position?

A. I provide financial, economic and policy analysis concerning interconnection and reciprocal compensation issues. Such analysis is provided in the context of supporting negotiations between Sprint Nextel entities to obtain interconnection agreements with other telecommunications carriers and, where necessary, provide expert witness testimony. In the performance of my responsibilities, I must maintain a working understanding of the interconnection and reciprocal compensation provisions of the Communications Act of 1934 as amended by the Telecommunications Act

of 1996 ("the Act" or "the 1996 Act") and the resulting rules and regulations of the Federal Communications Commission ("FCC").

Q. Have you provided testimony before other regulatory agencies?

A. Yes. In addition to my previously referenced testifying experience, since 1995 I have presented written or oral testimony before the Illinois Commerce Commission, the Pennsylvania Public Utility Commission, the New Jersey Board of Public Utilities, the Florida Public Service Commission, the North Carolina Utilities Commission, the Public Utilities Commission of Nevada, the Public Utility Commission of Texas, the Georgia Public Service Commission, the Arizona Corporation Commission, the New York Public Service Commission, the Corporation Commission of Oklahoma, the Missouri Public Service Commission, the Virginia State Corporation Commission, the Iowa Utilities Board, the Kentucky Public Service Commission, the Public Utilities Commission of Ohio, the Public Utility Commission of South Dakota, and the Federal Communications Commission on the avoided costs of resold services, the cost of unbundled network elements, reciprocal compensation, access reform, universal service, and local competition issues.

II. PURPOSE AND SCOPE OF TESTIMONY

Q. What is the scope and purpose of your Testimony?

A. I am testifying on behalf of Sprint Spectrum L.P. and SprintCom, Inc., d/b/a/ Sprint PCS ("Sprint"), AT&T Mobility, T-Mobile and Verizon Wireless (collectively the "CMRS Providers"). I will provide input to the Tennessee Regulatory Authority ("TRA") concerning the CMRS Providers' positions regarding the Rural Coalition's request for a 251(f)(2) suspension or modification of their obligation to perform forward-looking cost-studies and, in lieu thereof, impose access rates as their reciprocal compensation rates for non-access traffic. Specifically, I will testify that the cost of performing a forward-looking cost study does not represent an "undue economic burden" on the Rural Coalition members.

I will also comment on the April 27, 2007 Testimony of Jeffrey W. Reynolds, Emmanuel Staurulakis, and Steven E. Watkins, testifying on behalf of the Rural Coalition, a group of 21 individual Rural Local Exchange Carriers ("Rural Coalition," "Rural Coalition Members," or "RLECs").

III. ISSUES

A. The Telecommunications Act of 1996

Q. Please discuss the Act and how it relates to this proceeding.

A. A primary purpose of the Act is to promote competition, including intermodal competition, such as that between traditional ILECs (including the RLECs) and competitors such as the CMRS Providers.

In order to assure a level playing field between ILECs and other carriers, the Act and the FCC Rules established a forward-looking cost standard for reciprocal compensation. There is nothing in the Act or Rules which automatically exempts rural ILECs from this forward-looking cost standard. And, as indicated by the Eighth Circuit Court of Appeals, the Act should be interpreted in a manner which promotes competition. Specifically, the Court stated:

> First, all else being equal, if a provision of the Act is vague we are inclined to interpret the provision in a manner which promotes competition. It is undisputed that Congress passed the Act with the intention of eliminating monopolies and fostering competition.[1]

[1] *WWC License, L.L.C. v. Nebraska Public Service Commission, et. al.,* 459 F.3d 880 at page 891 (8th Cir. 2006).

B. Undue Economic Burden

Q. What are the criteria for the TRA to grant any individual RLEC a suspension or modification of an obligation imposed upon it by the Act?

A. According to § 251(f)(2) of the Act, as to each petitioning RLEC:

> ... The State commission shall grant such petition to the extent that, and for such duration as, the State commission determines that such suspension or modification –
>
> (A) is necessary -
> (i) to avoid a significant adverse impact on users of telecommunications services generally;
>
> (ii) to avoid imposing a requirement that is unduly economically burdensome; or
>
> (iii) to avoid imposing a requirement that is technically infeasible; and
>
> (B) is consistent with the public interest, convenience, and necessity.

Q. Are there any authoritative guidelines for any of these four criteria?

A. Not that I am aware of. The closest authoritative guideline for considering the grant or denial of a rural exemption or suspension is the Eighth Circuit Court's discussion of what is meant by an "undue economic burden" under 251(f). In *Iowa Utilities Board*, the Court stated:

> 2. Undue Economic Burden
>
> ...
>
> It is the full economic burden on the ILEC of meeting the request that must be assessed by the state commission. ... Instead, its

> [Congress'] chosen language looks to the whole of the economic burden the request imposes, not just a discrete part.[2]

Thus, while I am not an attorney, the applicable standard for the economic burden to be considered when an RLEC requests a suspension of an Act requirement, is the economic burden on the entire company to meet the requirement, not just a "discrete part" of the RLEC seeking the suspension.

Also note that the standard is an "undue" economic burden, not merely an economic burden. Any expenditure represents an economic burden to the party who is liable for that expenditure. A $5 lunch is an economic burden to any individual, but is unlikely to be "unduly economically burdensome" to most people. Likewise, while the cost of a forward-looking study is an economic burden to an RLEC, as explained in more detail in my testimony, there is no evidence in this case that such a study reasonably represents an "undue economic burden" to the RLECs.

The Eighth Circuit also stated that a rural suspension should not be "automatic":

> Nor do we think that consideration of the whole economic burden occasioned by the request will result in state commissions "automatically" continuing the exemption, or "automatically" granting a petition for suspension or modification. In making their determination of "unduly economically burdensome," the state commissions will undoubtedly take into their judgment the fact that the ILEC will

[2] *Iowa Utilities Board, et al. v. Federal Communications Commission*, 219 F.3d 744 at 761 (8th Cir. 2000), cert. granted on other grounds, 531 U.S. 1124, 121 S.Ct. 877 (2001).

be paid for the cost of meeting the request and may also receive a reasonable profit pursuant to § 252(d).[3]

Q. Has the Rural Coalition even addressed whether the costs of conducting TELRIC studies are unduly economically burdensome on the ILEC?

A. No. In fact, they have explicitly not done so. For example, Mr. Reynolds states, "The economic burden is not measured by whether a company can or cannot afford to pay for a TELRIC study ...."[4] Mr. Staurulakis states, "The CMRS providers may contend that the company could 'afford' the cost of the study out of its earnings. I respectfully recommend the Authority reject any such argument."[5] Both of these statements are contrary to the Eighth Circuit's explanation that the standard requires consideration of the "full economic burden on the ILEC", which necessarily implicates whether or not a given RLEC's overall financial condition can or cannot accommodate the given Act requirement that the RLEC seeks to suspend.

Q Do forward-looking cost studies need to be performed on an annual basis?

A. No. Once a quality forward-looking cost study has been performed, reviewed, and adopted by the TRA, there is no need for annual revisions.

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[3] *Id.*, at pages 761-762.

[4] April 27, 2007 Testimony of Jeffrey W. Reynolds, page 11, line 10.

[5] April 27, 2007 Testimony of Emmanuel Staurulakis, page 12, line 4.

Once forward-looking rates have been established, they could be used for many years.

Q. Does the cost of performing a forward-looking cost study represent an "undue" burden on the ILEC," in this case the Rural Coalition members?

A. No. The CMRS Providers originally filed for Arbitration on November 6, 2003. Thus, the Rural Coalition has been protesting the need to perform a forward-looking cost study for over three years, and now claim it is an "undue economic burden." Attachments RGF-1 through RGF-5 show the cost of performing a cost study when compared to various financial data provided by the Rural Coalition members.[6]

While I do not concede the accuracy of the RLEC's cost estimates, the following analyses in Attachments RGF-1 through RGF-5 assume the maximum cost of a forward-looking cost study *as provided by the RLECs.*

Attachment RGF-1 compares the alleged cost of the forward-looking cost study compared to each RLEC's revenue over the past three years. The cost of the forward-looking cost study is on average, only **[Begin**

[6] RGF-1 through RGF-5 constitute summaries of Sprint's financial analysis, conducted directly by me as well as pursuant to my direct supervision, of the respective RLECs' financial information for the years 2004, 2005 and 2006 as reflected on the compact disc filed in this case and produced to the CMRS Providers. The compact disc produced to Sprint is labeled with the case-caption in this Docket, labeled "CONFIDENTIAL", and titled "Joint Supplemental Response of the Tennessee Rural Independent Coalition to CMRS Providers' Interrogatories and Requests for Production of Documents to Rural Coalition Members, May 4, 2007.

Proprietary Information] X.X% (i.e. X.XX) **[End Proprietary Information]** of the Rural Coalition members' total revenue.

Attachment RGF-2 compares the alleged cost of the forward-looking cost study compared to each RLEC's net income over the past three years. The cost of the forward-looking cost study is on average, only **[Begin Proprietary Information]** X.X% (i.e. X.XX) **[End Proprietary Information]** of the Rural Coalition members' total net income.

Attachment RGF-3 compares the alleged cost of the forward-looking cost study compared to each RLEC's capital expenditures over the past three years. The cost of the forward-looking cost study is on average, only **[Begin Proprietary Information]** X.X% (i.e. X.XXX) **[End Proprietary Information]** of the Rural Coalition members' total capital expenditures.

Q. What has been the Rural Coalition members' return on average equity investment?

A. Attachment RGF-4 shows that the three-year average return on average equity is **[Begin Proprietary Information]** XX.X% **[End Proprietary Information]** for the non-cooperative Rural Coalition members. Including the cooperative members, the three-year average return on average equity is **[Begin Proprietary Information]** X.X% **[End Proprietary Information]**.

Q. Have several of the Rural Coalition members been paying dividends to a parent holding company?

A. Yes. Ten of the twenty-one Rural Coalition members are subsidiaries of parent holding companies. It is reasonable for holding companies to draw dividends from their operating companies, and it is reasonable that holding companies provide a return to their shareholders. However, it is also relevant to the discussion of an "undue economic burden" to compare the alleged cost of a forward-looking cost study to the dividend payouts of the Rural Coalition members. Attachment RGF-5 shows that the cost of a forward-looking cost study represents, on average, only **[Begin Proprietary Information]** X.X% (i.e. X.XXX) **[End Proprietary Information]** of the dividend payout for the ten Rural Coalition members who are subsidiaries of holding companies.

It is interesting to note that over the past three years, these ten Rural Coalition members have paid out an average of **[Begin Proprietary Information]** XXX% **[End Proprietary Information]** of their earnings in the form of dividends to their parent companies. Thus the total retained earnings of these Rural Coalition members has been **[Begin Proprietary Information]** xxxxxxxxxx **[End Proprietary Information]** over the past three years due to dividend payouts to their parent companies.

Q. Based on the financial data provided by the RLECs, does their alleged cost of performing a forward-looking cost study represent an "undue economic burden" to the RLECs based upon the standard established by the Eighth Circuit Court?

A. No. Quite frankly, it is difficult to fathom how such a relatively minor expenditure could represent an "undue economic burden" to any of the Rural Coalition members.

IV. Rebuttal of Messrs. Reynolds, Staurulakis, and Watkins

A. Rebuttal of Messrs. Reynolds and Staurulakis

Q. Do you see any reasonable basis to conclude that the alleged cost of a forward-looking cost study will have a negative affect on the RLECs' ability to maintain existing services and provide advanced services.

A. No. Contrary to the testimonies of Mr. Reynolds and Mr. Staurulakis, it would have no significant impact.

Mr. Reynolds states, "... dollars are being diverted that could be better used to support advanced communications networks ...."[7] Mr. Staurulakis states this expense could be better put to use for "... maintenance of existing

[7] April 27, 2007 Testimony of Jeffrey W. Reynolds, page 11, line 22.

services, and network upgrades to foster the provision of broadband and advanced service ...."[8]

Both of these statements grossly exaggerate the cost of preparing a forward-looking cost study when compared to the RLECs' ongoing capital expenditures. As shown in Attachment RGF-3, the alleged cost of forward-looking cost studies is on average, only **[Begin Proprietary Information]** X.X% (i.e. X.XX) **[End Proprietary Information]** of the RLECs' total capital expenditures for the past three years.

These statements are particularly spurious, again, considering the fact that ten Rural Coalition members have paid out an average of **[Begin Proprietary Information]** XXX% **[End Proprietary Information]** of their earnings in the form of dividends to their parent companies.

Under such circumstances it is simply speculation to suggest that the alleged cost of performing a forward-looking cost study would have any measurable impact on the ability of the Rural Coalition members to "provide advanced services."

Q. Beginning on page 5 of his April 27, 2007 Testimony, Mr. Reynolds discusses an FCC Public Notice. Please comment.

[8] April 27, 2007 Testimony of Emmanuel Staurulakis, page 11, line 19.

A. This Public Notice is taken out-of-context. First, this Public Notice concerns Universal Service Fund (USF) issues, and has nothing to do with reciprocal compensation. Second, the FCC's intent appears to be completely opposite of that suggested by Mr. Reynolds. In a May 1, 2007 Recommended Decision, a Joint Board Commissioner stated,

> Due to unsustainable growth pressures on the fund all ETCs should anticipate changes to current USF distribution mechanisms. ... ***Rural ILECs may no longer receive support payment based on their embedded costs.***[9] (Emphasis added.)

B. Rebuttal of Mr. Watkins

Q. In his Testimony, Mr. Watkins' questions the validity of the TELRIC methodology. Please comment.

A. The vast majority of Mr. Watkins testimony seems to be an attempt to re-analyze and question the TRA's decision-making in Docket No. 03-00585. In that Docket, after months of exhaustive testimony, hearings, and deliberations, the TRA came to the following conclusion;

> A majority of the Arbitrators determined that the rates should be based on forward-looking economic costs. Specifically, the rates should be set using the TELRIC pricing methodology. ... The rates offered by the ICO members were not based on forward-looking costs. Instead, they were derived from interstate access rates, which include embedded costs. Embedded costs that are permissible in the calculation of

[9] Concurring Statement of Commissioner Ray Baum, Recommended Decision; *In the Matter of High-Cost Universal Service Support*, WC Docket No. 05-337; and *Federal-State Joint Board on Universal Service*, CC Docket no. 96-45; Adopted April 26, 2007, Released May 1, 2007.

> access rates are not permissible in the calculation of rates based on forward-looking costs.[10]

Since this issue has already been decided upon, Mr. Watkins' testimony appears to be nothing more than an attempt to reargue the appropriate methodology for determining rates under the Act, and it is irrelevant to the issues in this proceeding.

Q. On page 4, line 38 of his Testimony, Mr. Watkins states, "... through the imposition of TELRIC methods ... Rural Telephone Companies may not recover their actual costs ...." Please comment.

A. This statement is totally without foundation. Apparently, Mr. Watkins arbitrarily defines "actual costs" as those equal to interstate access rates. Access rates are developed based upon historic, embedded costs. The FCC explicitly rejected the use of embedded costs in developing rates for reciprocal compensation. Specifically, in the Local Competition Order,[11] the FCC states:

> **(b) Cost Measures Not Included in Forward-Looking Cost Methodology**
>
> 704. *Embedded Costs.* We read section 252(d)(1)(A)(i) to prohibit states from conducting traditional rate-of-return or other rate-based proceedings to determine rates for interconnection and access to unbundled network elements. (Emphases in original.)

[10] *In Re: Petition for Arbitration of Cellco Partnership d/b/a/ Verizon Wireless,* Order of Arbitration Award at page 40, TRA Consolidated Docket No. 03-00585(January 12, 2006) ("*Cellco*").
[11] *In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996,* 11 FCC Rcd15499at ¶ 704, (1966) (" First Report and Order").

Note that 47 C.F.R. § 51.705(a) establishes the same forward-looking methodology for reciprocal compensation.

Also, as discussed above, in its January 12, 2006 Order in this proceeding, the TRA has already explicitly rejected the use of embedded costs and interstate access rates as a basis for setting reciprocal compensation rates.

The use of embedded cost is particularly troublesome in the areas of switching costs, the most significant cost element in reciprocal compensation rates. It has been well established that the cost of switching equipment has decreased dramatically in recent years. For example, according to the AUS Telephone Plant Index,[12] the cost of switching investment fell by 21.4% from 1996 to 2006.

Q. Do forward-looking rates, in fact, represent "actual costs?"

A. Yes. Forward-looking rates reflect costs of an efficient provider in a competitive environment. Since the entire purpose of the Act was to promote competition, including inter-modal competition such as that between traditional ILECs and CMRS providers, requiring the RLECs to set their rates for reciprocal compensation based upon a forward-looking methodology assures a level playing field between these two competitors. Mr. Watkins' suggestion to establish rates for reciprocal compensation equal

[12] *AUS Telephone Plant Index, Cost Trend Tables form 1946 to January 1, 2006*; AUS Consultants, 2006; Schedule No. T-2.

to interstate access rates will not enhance competition, but will place the CMRS Providers at a competitive disadvantage by forcing them to pay inflated rates which reflect inefficient, embedded costs.

It is also important to note that the RLECs' end-users and the CMRS Providers' end-users are often the same Tennessee individuals or businesses. Forcing the CMRS Providers to pay uneconomic reciprocal compensation rates artificially increases the cost to the CMRS Providers' as well as to their Tennessee end-users. RLEC protectionism in the form of improperly imposed excessive costs can directly hinder when and to what extent a CMRS Provider may be able to initially offer or otherwise expand wireless services to Tennessee end-users. Such delay is to the very detriment of Tennessee consumers in rural areas that could significantly benefit from greater, rather than less, wireless services.

Q. On page 11, line 29, Mr. Watkins states, "... the FCC's intercarrier compensation rulemaking has as its central premise the value of, and the need for, <u>uniform</u> compensation rates for the transport and termination of traffic." (Emphasis by Mr. Watkins in original.) Please comment.

A. Although the FCC desires uniform intercarrier compensation rates, the suggestion and conclusion Mr. Watkins attempts to make are incorrect. The ongoing history of access rate reform has been to reduce interstate access

rates, remove all subsidies, and move access rates lower toward economic costs. It is incorrect to imply that the FCC wishes to increase reciprocal compensation rates towards embedded access rates; in fact, just the opposite is true.

Q. Beginning on page 6, line 7, Mr. Watkins also makes reference to the FCC's "TELRIC NPRM" proceeding to imply that the FCC now questions the TELRIC methodology. Please comment.

A. This NPRM was released September 15, 2003, about one and one-half years before the Triennial Review Remand Order (TRRO).[13] Contrary to Mr. Watkins' implications, nowhere does the TELRIC NPRM question the validity of the forward-looking cost methodology. In fact, according to the FCC's September 10, 2003 News Release,

> ... the NPRM adopted today:
>
> - reaffirms the FCC's 1996 decision to use forward-looking cost methodology to determine UNE pricing;
> - aims to provide the market with more appropriate economic signals to promote efficient facilities investment; and
> - seeks to simplify the UNE costing methodology to make it easier for state commissions to develop UNE prices.

At present, there is little activity in this docket.

[13] *In the Matter of Unbundled Access to Network Elements*; FCC Order on Remand, WC Docket No. 04-313; (Released February 4, 2005).

Q. What is the intent of the FCC regarding reciprocal compensation rates?

A. Access rates have fallen dramatically in recent years, but still contain subsidies and reflect embedded costs. The FCC policy has been to explicitly remove the loop cost subsidy from interstate access rates, and make the end-user responsible for this loop cost through the creation of the end-user Subscriber Line Charge (SLC).

There is no indication that the FCC wishes to see reciprocal compensation rates increase to access levels. In fact, just the opposite seems to be the case. One indication of the FCC's intent is the *Virginia Arbitration Order.*[14] Consistent with its policy eliminating subsidies and to make the end user more responsible for their costs, the FCC required the carrier to recover all of its switching costs, both traffic-sensitive and non-traffic sensitive, directly from its end-users and not from other carriers. The FCC thus established a Bill-and-Keep reciprocal compensation arrangement between the carriers.

[14] *In the Matter of Petition of WorldCom, Inc. Pursuant to Section 252(e)(5) of the Communications Act for Preemption of the Jurisdiction of the Virginia State Corporation Commission Regarding Interconnection Disputes with Verizon Virginia Inc., and for Expedited Arbitration,* Memorandum Opinion and Order by the Chief Wireline Competition Bureau,CC Docket No. 00-218;(Released August 29, 2003).

IV. ESTABLISHMENT OF FORWARD-LOOKING RECIPROCAL COMPENSATION RATES WITHOUT RLEC PREPARED COST STUDIES

Q. How are incumbent LEC reciprocal compensation rates for transport and termination supposed to be established under the FCC's Rules?

A. 47 C.F.R. § 51.705(a) provides two methods to establish reciprocal compensation rates: [15]

- based upon forward-looking economic costs under 47 C.F.R. 51.705(a)(1), or
- Bill-and-Keep under 47 C.F.R. § 51.705(a)(3).

Q. Has the TRA ordered the Rural Coalition to provide forward-looking economic cost studies?

A. Yes. In Docket No. 03-00585 the TRA first decided that forward-looking cost studies in were appropriate for reciprocal compensation in its January 12, 2005 deliberations.[16] Specifically, Chairman Miller stated:

> In my opinion, the Authority has only one option for setting the applicable reciprocal compensation rate.
>
> Although the Coalition proposes rates, I agree with the CMRS providers that these rates are not compliant with the required TERLIC methodology. The rates offered by the Coalition are derived from their interstate access rates. No TELRIC cost studies were presented in this case; therefore, I do not find setting a cost-based rate an option at this time.

[15] 47 C.F.R. § 51.705(a)(2) allowed the use of default proxies, but this was subsequently vacated. *See Iowa Utilities Bd. V. FCC*, 219 F.3d (8th Cir. 2000).

[16] *Cellco*, Transcript of January 12, 2005 deliberations at pages 38 – 39.

Director Jones concurred with Chairman Miller. Director Tate, however, recommended a Bill-and-Keep arrangement between the Rural Coalition and the CMRS Providers. Specifically, Director Tate stated:

> I ... believe that another alternative under FCC Rule 51.705 does allow us to implement bill-and-keep arrangements. ...
>
> ... bill-and-keep, while it may not be associated with specific revenue streams between entities, does have many advantages, including administrative simplification, and does not require subsequent proceedings, although they are expressly permitted.[17]

Subsequently, the TRA released its written Order of Arbitration Award on January 12, 2006. The TRA explicitly ordered the Rural Coalition to perform forward-looking cost studies. Specifically, the TRA stated:

> A majority of the Arbitrators determined that the rates should be based on forward-looking economic costs. Specifically, the rates should be set using the TELRIC pricing methodology. ... The rates offered by the ICO members were not based on forward-looking costs. Instead, they were derived from interstate access rates, which include embedded costs. Embedded costs that are permissible in the calculation of access rates are not permissible in the calculation of rates based on forward-looking costs.[18]

Q. Has the Rural Coalition provided forward-looking economic cost studies?

A. No. Despite the TRA's January 12, 2005 proceeding deliberations, and the TRA's January 12, 2006 Order, the Rural Coalition has refused to provide

[17] *Id.* at page 43.

[18] *Cellco*, Order of Arbitration Award at page 40.

TRA-ordered forward-looking cost studies, and continues to do so with this proceeding.

Q. Given the Rural Coalition's repeated refusal to provide forward-looking cost studies, despite the TRA's Orders to the contrary, does the TRA have any other options other than adopting a Bill-and-Keep arrangement?

A. Yes. According to § 252(b)(4)(B) of the Act, the TRA can establish a permanent rate for reciprocal compensation based upon the best available information. Specifically, § 252(b)(4)(B) of the Act states:

> The State commission may require the petitioning party and the responding party to provide such information as may be necessary for the State commission to reach a decision on the unresolved issue. If any party refuses or fails unreasonably to respond on a timely basis to any reasonable request from the State commission, then the State commission may proceed on the basis of the best information available to it from whatever source derived.

Since the Rural Coalition has repeatedly refused to provide TRA-ordered forward-looking cost studies, the TRA may proceed to establish permanent reciprocal compensation rates based upon the "best information available," consistent with the FCC's rules on forward-looking rates.

Q. Has any other state utilized this approach to determine forward-looking reciprocal compensation rates for RLECs which have refused to perform commission-ordered forward-looking cost studies?

A. Yes. In Case No. 2006-00215, et. al., the Kentucky Public Service Commission recently adopted this approach, without true-up, for a group of twelve RLECs who refused to perform Commission-ordered forward-looking cost studies.[19] Specifically, the Kentucky Commission stated:

> With no TELRIC study upon which to base rates, the Commission must either use the proxy rates or require bill-and-keep. The Commission selects the option of the proxy rates. The Commission will adopt the proxy rate calculations presented by the CMRS Providers for each company, with one change in the calculation. ...
>
> The Commission will require that these rates be used until TELRIC cost studies are filed with and approved by the Commission. The RLECs must submit proposed TELRIC studies within 90 days of the date of this Order. Once relevant TELRIC rates are approved, those rates shall replace the proxy rates ordered herein on a prospective basis.

The "proxy rates" that were adopted by the Kentucky Public Service Commission were premised upon an analysis which I prepared based upon 47 C.F.R. § 51.715(b)(3). The Commission nominally increased the rates that I had developed by $0.001, to end up with forward-looking rates that ranging from $0.004318 to $0.009581.

[19] *Petition of Ballard Rural Telephone Cooperative Corporation, Inc. for Arbitration of Certain Terms and Conditions of Proposed Interconnection Agreement with American Cellular f/k/a ACC Kentucky License LLC, Pursuant to the Communications Act of 1934, as amended by the Telecommunications Act of 1996,* Consolidated Case Nos. 2006-215, et. al., Order at page (Kentucky Public Service Commission Issued December 22, 2006).

V. CONCLUSION

Q. Please summarize your testimony.

A. The Rural Coalition has not provided any evidence that establishes even their alleged costs of producing forward-looking cost studies will create an "undue economic burden" on any the Rural Coalition members. In fact, just the opposite is true. Attachments RGF-1 through RGF-5 demonstrate that the cost of performing a forward-looking cost study, even accepting their cost estimates at face value, does not represent an "undue economic burden" on any of the Rural Coalition members. If the coalition continues to fail to provide forward-looking cost studies, the TRA can use the process set forth in § 252(b)(4)(B) of the Act as discussed earlier in my testimony.

Q. Does this conclude your Direct Testimony?

A. Yes, it does.

Analysis of Inpact of TELRIC Studies' Cost
On Rural Coalition Members' Operating Revenues
***** CONTAINS PROPRIETARY INFORMATION *****

A	B	C	D	E	F	G	H
						TELRIC Study Cost	
Row	Company	2004	2005	2006	Total	Amount	% Rev.
11	Ardmore						
12	Ben Lomand						
13	Bledsoe Telephone						
14	Centurytel of Adamsville						
15	Centurytel of Claiborne						
16	Centurytel of Ootewah - Collegedale						
17	Crockett Telephone						
18	DeKalb						
19	Highland						
20	Loretto						
21	Millington						
22	North Central						
23	Peoples						
24	TDS - Concord						
25	TDS - Humphreys						
26	TDS - Tellico						
27	TDS - Tennessee						
28	Twin Lakes						
29	United						
30	West Tennessee Telephone						
31	Yorkville						
32	Grand Total						

Analysis of Inpact of TELRIC Studies' Cost
On Rural Coalition Members' Net Income
******* CONTAINS PROPRIETARY INFORMATION *******

A	B	C	D	E	F	G	H
						TELRIC Study Cost	
Row	Company	2004	2005	2006	Total	Amount	% Net Inc.
11	Ardmore						
12	Ben Lomand						
13	Bledsoe Telephone						
14	Centurytel of Adamsville						
15	Centurytel of Claiborne						
16	Centurytel of Ootewah - Collegedale						
17	Crockett Telephone						
18	DeKalb						
19	Highland						
20	Loretto						
21	Millington						
22	North Central						
23	Peoples						
24	TDS - Concord						
25	TDS - Humphreys						
26	TDS - Tellico						
27	TDS - Tennessee						
28	Twin Lakes						
29	United						
30	West Tennessee Telephone						
31	Yorkville						
32	Grand Total						

Analysis of Inpact of TELRIC Studies' Cost
On Rural Coalition Members' Capital Expenditures
***** CONTAINS PROPRIETARY INFORMATION *****

A	B	C	D	E	F	G	H
						TELRIC Study Cost	
Row	Company	2004	2005	2006	Total	Amount	% Cap Ex
11	Ardmore						
12	Ben Lomand						
13	Bledsoe Telephone						
14	Centurytel of Adamsville						
15	Centurytel of Claiborne						
16	Centurytel of Ootewah - Collegedale						
17	Crockett Telephone						
18	DeKalb						
19	Highland						
20	Loretto						
21	Millington						
22	North Central						
23	Peoples						
24	TDS - Concord						
25	TDS - Humphreys						
26	TDS - Tellico						
27	TDS - Tennessee						
28	Twin Lakes						
29	United						
30	West Tennessee Telephone						
31	Yorkville						
32	Grand Total						

Analysis of Inpact of TELRIC Studies' Cost
On Rural Coalition Members' Return on Average Equity *
******* CONTAINS PROPRIETARY INFORMATION *******

A	B	C	D	E	F
Row	Company	2004	2005	2006	Total
11	**Non-Cooperative RLECs**				
12	Ardmore				
13	Operating Income				
14	Average Stockholders Equity				
15	Return on Average Equity				
16					
17	Centurytel of Adamsville				
18	Operating Income				
19	Average Stockholders Equity				
20	Return on Average Equity				
21					
22	Centurytel of Claiborne				
23	Operating Income				
24	Average Stockholders Equity				
25	Return on Average Equity				
26					
27	Centurytel of Ootewah - Collegedale				
28	Operating Income				
29	Average Stockholders Equity				
30	Return on Average Equity				
31					
32	Crockett Telephone				
33	Operating Income				
34	Average Stockholders Equity				
35	Return on Average Equity				
36					

Analysis of Inpact of TELRIC Studies' Cost
On Rural Coalition Members' Return on Equity
******* CONTAINS PROPRIETARY INFORMATION *******

A	B	C	D	E	F
Row	Company	2004	2005	2006	Total
47	Loretto				
48	Operating Income				
49	Average Stockholders Equity				
50	Return on Average Equity				
51					
52	Millington				
53	Operating Income				
54	Average Stockholders Equity				
55	Return on Average Equity				
56					
57	Peoples				
58	Operating Income				
59	Average Stockholders Equity				
60	Return on Average Equity				
61					
62	TDS - Concord				
63	Operating Income				
64	Average Stockholders Equity				
65	Return on Average Equity				
66					
67	TDS - Humphreys				
68	Operating Income				
69	Average Stockholders Equity				
70	Return on Average Equity				
71					

Analysis of Inpact of TELRIC Studies' Cost
On Rural Coalition Members' Return on Equity
******* CONTAINS PROPRIETARY INFORMATION *******

A	B	C	D	E	F
Row	Company	2004	2005	2006	Total
82	TDS - Tellico				
83	Operating Income				
84	Average Stockholders Equity				
85	Return on Average Equity				
86					
87	TDS - Tennessee				
88	Operating Income				
89	Average Stockholders Equity				
90	Return on Average Equity				
91					
92	United				
93	Operating Income				
94	Average Stockholders Equity				
95	Return on Average Equity				
96					
97	West Tennessee Telephone				
98	Operating Income (Loss)				
99	Average Stockholders Equity				
100	Return on Average Equity				
101					
102	Sub-Total - Non-Cooperative RLECs				
103	Operating Income (Loss)				
104	Average Stockholders Equity				
105	Return on Average Equity				
106					

Analysis of Inpact of TELRIC Studies' Cost
On Rural Coalition Members' Return on Equity
******* CONTAINS PROPRIETARY INFORMATION *******

A	B	C	D	E	F
Row	Company	2004	2005	2006	Total
117	**Cooperative RLECs**				
118	Ben Lomand (Co-Op)				
119	Operating Income				
120	Average Stockholders Equity				
121	Return on Average Equity				
122					
123	Bledsoe Telephone (Co-Op)				
124	Operating Income				
125	Average Stockholders Equity				
126	Return on Average Equity				
127					
128	DeKalb (Co-Op)				
129	Operating Income				
130	Average Stockholders Equity				
131	Return on Average Equity				
132					
133	Highland (Co-Op)				
134	Operating Income				
135	Average Stockholders Equity				
136	Return on Average Equity				
137					
138	North Central (Co-Op)				
139	Operating Income				
140	Average Stockholders Equity				
141	Return on Average Equity				
142					

Analysis of Inpact of TELRIC Studies' Cost
On Rural Coalition Members' Return on Equity
******* CONTAINS PROPRIETARY INFORMATION *******

A	B	C	D	E	F
Row	Company	2004	2005	2006	Total
153	Twin Lakes (Co-Op)				
154	Operating Income				
155	Average Stockholders Equity				
156	Return on Average Equity				
157					
158	Yorkville (Co-Op)				
159	Operating Income (Loss)				
160	Average Stockholders Equity				
161	Return on Average Equity				
162					
163	Sub-Total - Cooperative RLECs				
164	Operating Income (Loss)				
165	Average Stockholders Equity				
166	Return on Average Equity				
167					
168	Grand Total				
169	Operating Income (Loss)				
170	Average Stockholders Equity				
171	Return on Average Equity				

* Average equity is equal to the average of year-end equity and prior year's ending equity.

Analysis of Inpact of TELRIC Studies' Cost
On Rural Coalition Members' Dividend Payout
******* CONTAINS PROPRIETARY INFORMATION *******

A	B	C	D	E	F	G	H
						TELRIC Study Cost	
Row	Company	2004	2005	2006	Total	Amount	% Div. PO
11	Centurytel of Adamsville						
12	Net Income						
13	Less: Change in Retained Earnings						
14	Dvidend Payout to Parent						
15	Dividend Payout Ratio						
16							
17	Centurytel of Claiborne						
18	Net Income						
19	Less: Change in Retained Earnings						
20	Dvidend Payout to Parent						
21	Dividend Payout Ratio						
22							
23	Centurytel of Ootewah - Collegedale						
24	Net Income						
25	Less: Change in Retained Earnings						
26	Dvidend Payout to Parent						
27	Dividend Payout Ratio						
28							
29	Crockett Telephone						
30	Net Income						
31	Less: Change in Retained Earnings						
32	Dvidend Payout to Parent						
33	Dividend Payout Ratio						

Analysis of Inpact of TELRIC Studies' Cost
On RLECs' Dividend Payout
******* CONTAINS PROPRIETARY INFORMATION *******

A	B	C	D	E	F	G	H
						TELRIC Study Cost	
Row	Company	2004	2005	2006	Total	Amount	% Div. PO
45	Peoples						
46	Net Income						
47	Less: Change in Retained Earnings						
48	Dvidend Payout to Parent						
49	Dividend Payout Ratio						
50							
51	TDS - Concord						
52	Net Income						
53	Less: Change in Retained Earnings						
54	Dvidend Payout to Parent						
55	Dividend Payout Ratio						
56							
57	TDS - Humphreys						
58	Net Income						
59	Less: Change in Retained Earnings						
60	Dvidend Payout to Parent						
61	Dividend Payout Ratio						
62							
63	TDS - Tellico						
64	Net Income						
65	Less: Change in Retained Earnings						
66	Dvidend Payout to Parent						
67	Dividend Payout Ratio						

Analysis of Inpact of TELRIC Studies' Cost
On RLECs' Dividend Payout
******* CONTAINS PROPRIETARY INFORMATION *******

A	B	C	D	E	F	G	H
						TELRIC Study Cost	
Row	Company	2004	2005	2006	Total	Amount	% Div. PO
79	TDS - Tennessee						
80	Net Income						
81	Less: Change in Retained Earnings						
82	Dvidend Payout to Parent						
83	Dividend Payout Ratio						
84							
85	West Tennessee Telephone						
86	Net Income (Loss)						
87	Less: Change in Retained Earnings						
88	Dvidend Payout to Parent						
89	Dividend Payout Ratio						
90							
91	Grand Total						
92	Net Income (Loss)						
93	Less: Change in Retained Earnings						
94	Dvidend Payout to Parent						
95	Dividend Payout Ratio						

OATH

STATE OF KANSAS)
COUNTY OF JOHNSON)

I, Randy G. Farrar, being first duly sworn, make oath that I am the Senior Manager – Interconnection Support for Sprint United Management, a subsidiary of Sprint Nextel Corporation, and that my Pre-filed Testimony, and any attachments or exhibits thereto, submitted to the Tennessee Regulatory Authority in TRA Docket No. 06-00228 and the statements contained therein are true, accurate and correct to the best of my knowledge, information and belief.

Randy G. Farrar

Senior Manager – Interconnection Support
for Sprint United Management

Sworn to and subscribed before me this 14TH day of May, 2007.

Notary Public

NOTARY PUBLIC – State of Kansas
RHAMIE GLADE
My Appt. Exp. 9-12-08

My Commission Expires: 9-12-08

BEFORE THE
TENNESSEE REGULATORY AUTHORITY

In the Matter of:

Tennessee Rural Independent Coalition Petition for Suspension and Modification Pursuant to 47 U.S.C. Section 251(f)(2)	**Docket No. 06-00228**

PRE-FILED TESTIMONY OF W. CRAIG CONWELL ON BEHALF OF THE CMRS PROVIDERS

PUBLIC VERSION

I. INTRODUCTION

Q. Please state your name, business address and employer.

A. My name is W. Craig Conwell. My business address is 405 Hammett Road, Greer, South Carolina. I am self-employed as an independent consultant, specializing in telecommunications cost analysis.

Q. On whose behalf are you testifying?

A. I am testifying as the witness in this proceeding for Cingular Wireless, T-Mobile USA, Inc, Sprint Spectrum L.P. and SprintCom, Inc., d/b/a/ Sprint PCS, and Verizon Wireless (collectively the Commercial Mobile Radio Service Providers, or "CMRS Providers").[1]

Q. Please describe your educational and work background.

A. I have included as Exhibit WCC-1 a copy of my current resume. I have Bachelor and Master of Science degrees in Industrial Engineering from Auburn University and over 30 years of experience in the telecommunications industry, with a broad background in telecommunications costs analysis as an employee of the Bell System, with Arthur Andersen & Co. in its telecommunications consulting practice, and for the past ten years as an independent consultant.

In recent years, I have been extensively involved in negotiations and arbitrations of reciprocal compensation rates between incumbent local exchange carriers

[1] "In the Matter of: Tennessee Rural Independent Coalition Petition for Suspension and Modification Pursuant to 47 U.S.C. Section 251(f)(2)," TRA Docket No. 06-00228.

(ILECs) and wireless carriers. I have analyzed numerous ILEC cost studies for compliance with the FCC rules for Total Element Long Run Incremental Costs (TELRIC), and I have testified as an expert cost witness on behalf of wireless carriers in one or more arbitrations in eight states. I also was involved on behalf of the AT&T (previously SBC) local exchange carriers in the arbitrations establishing rates for unbundled network elements and collocation. I have provided expert testimony on one or more occasions in 15 states. Over the years, I have developed cost models, participated in the design of telecommunications cost accounting systems, performed cost studies of various types, and taught service cost courses for the United States Telephone Association and telephone company staffs. In addition, I have held management positions in corporate planning, financial management and marketing.

Q. What are the other arbitrations between ILECs and wireless carriers in which you participated?

A. I was the cost witness for wireless carriers in two arbitrations in Oklahoma (Cause Nos. PUD 200200150 and PUD 200300771), an arbitration in Tennessee (Docket No. 03-00585), two arbitrations in Missouri (Case Nos. IO–2005-0468 and TO-2006-0147), two arbitrations in Michigan (Case Nos. U-14678 and U-14889), an arbitration in California (A.06-02-028–038, 040), an arbitration in South Dakota (OHE Docket PUC-06 and SDPUC Docket Nos. TC06-036 – TC06-042), an arbitration in Mississippi (Docket Nos. 2006-AD-430 and 2006-AD-431), and an arbitration in North Carolina (Docket No. P-61, Sub 95). In these cases, I have

reviewed ILEC cost studies and their results to determine whether they meet the FCC requirements for establishing reciprocal compensation rates.

Q. Have you previously produced evidence in this docket, TRA # 06-00228?

A. Yes. I prepared an affidavit providing an estimate of the effort required for a rural local exchange carrier (RLEC) to produce a TELRIC study and provided a simple Excel model that might be used for such as study. These were exhibits to the *CMRS Providers' Response to the Tennessee Rural Coalition's Supplemental Statement Regarding Petition for Section 251(f)(2) Suspension and Modification of Section 251(B)(5) TELRIC Pricing Methodology* filed with the Tennessee Regulatory Authority (the "Authority") in this docket on November 2, 2006.

Q. What is the purpose of your testimony?

A. My testimony addresses positions taken by Jeffrey W. Reynolds, Emmanuel Staurulakis and Steven E. Watkins, witnesses for the Tennessee Rural Independent Coalition (the "Rural Coalition" or "Coalition Members"), in support of the Coalition's request for suspension of the requirement to perform TELRIC or forward-looking economic cost studies.

Q. Please summarize your testimony.

A. The Coalition Members are seeking a suspension of the requirement to establish transport and termination rates based on *forward-looking economic costs*

determined by TELRIC studies.[2] My testimony has three sections addressing each of the three reasons given by the Rural Coalition for seeking such a suspension.

- The Coalition Members allege the requirement to establish transport and termination rates based on forward-looking economic costs and to produce TELRIC studies (1) would have adverse economic impact on users of telecommunications services, (2) would be unduly economically burdensome and (3) would be inconsistent with the public interest.
- Do transport and termination rates set at forward-looking economic cost have adverse economic impact on users of telecommunications services?
    - Coalition Members provided no substantive evidence of higher rates to users of telecommunications services, reduced service quality or service availability, or other economic impact of rates based on forward-looking economic costs. Without such evidence, there is no basis to conclude an adverse economic impact.
    - Rates based on forward-looking economic costs enable the Coalition Members to recover costs caused by CMRS Provider traffic, including recovery of the cost of capital and a reasonable allocation of common costs. Rates in excess of these costs – the forward-looking economic costs - burden the CMRS Providers with contributing to the recovery of

[2] Forward-looking economic costs are defined in FCC Rules §§51.505 and 51.511. Per FCC Rule §51.705, establishing transport and termination rates on the basis of forward-looking economic costs is one of three bases for reciprocal compensation for interconnection. The other two bases – bill-and-keep and the use of cost proxies – are not the subjects of this preceding.

Coalition Member embedded costs, lost revenues due to competition or subsidies to other services.

- Transport and termination rates based on forward-looking economic costs (without the burdens of embedded costs, lost revenues due to competition and subsidies) are likely to have long-run, positive economic impact.
- Without substantive evidence, Coalition Members refer to broad statements from Universal Service proceedings, the FCC's *First Report and Order* and other cases to insinuate adverse economic impacts. When these broad statements are carefully considered, it is apparent they either do not support the Coalition witnesses' conclusions, do not apply to setting transport and termination rates or otherwise deal with regulatory policy issues well beyond the scope of this case.
- The Coalition Members allege there is something inherently wrong with the TELRIC methodology that prevents them from recovering their "actual costs" or "genuine costs." This is incorrect. In practice, TELRIC methodology is simply a series of cost calculations (or algorithms), which follow time-tested principles for computing network element costs. In the context of interconnection, TELRIC methodology is used to compute the additional costs of transporting and terminating traffic. What the Coalition Members are concerned with are the input data used in these calculations – not the methodology itself. They would have the input data reflect embedded plant investment and past network upgrades, existing utilization levels and operating expenses, whether efficient or not. In effect, the

Coalition Members are seeking to maintain ratemaking in a protective environment without competition. In other words, they seek to set rates as if the Act did not exist.

- Are TELRIC studies unduly economically burdensome? They are not. The Coalition Members have provided cost estimates to perform TELRIC studies. The estimates are incomplete. They lack adequate support. They do not identify the broad tasks, times and costs required for a TELRIC study, and they do not differentiate the cost of the study from the cost of defending the study in hearings. Even so, the Coalition Members' estimated costs are not economically burdensome as demonstrated by the measures discussed below.

Coalition Members argue that TELRIC studies, whether economically burdensome or not, are a waste of money. However, FCC rules generally require that rates be set based on such studies and that the CMRS Providers be provided information on the costs they cause ("additional costs" per the Telecom Act and forward-looking economic costs per the FCC rules), when establishing rates.[3] This requires a TELRIC study.

- Are requirements to produce TELRIC studies and set transport and termination rates at forward-looking economic costs inconsistent with the public interest? As discussed above, the Coalition Members have not produced evidence to show TELRIC studies and transport and termination rates based on forward-looking economic costs will affect the cost of telecommunication services to end users or the quality and availability of

[3] See FCC Rule §51.505(e).

services in Tennessee. To the contrary, the pricing standards of the Telecom Act and the FCC rules for establishing interconnection prices were designed to promote competition in the public interest.

II. DO TRANSPORT AND TERMINATION RATES SET AT FORWARD-LOOKING ECONOMIC COSTS HAVE AN ADVERSE ECONOMIC IMPACT?

Q. What is the basis for the Coalition Members' claim of adverse economic impact on users of telecommunications services?

A. Jeffrey W. Reynolds and Emmanuel Staurulakis, witnesses for the Rural Coalition, argue that the FCC "has continually and consistently refrained from imposing TELRIC costing methodology on the rural companies for any purpose because of its concern for the potential impacts on the users of rural telephone services."[4] To support this view, the Rural Coalition witnesses cite statements by the Federal-State Universal Service Joint Board and the FCC in its *First Report and Order*.[5]

Steven E. Watkins, the third witness for the Rural Coalition, makes a broad range of arguments.[6]

- "The cost to conduct TELRIC studies would create a significant adverse economic impact for end users in that ultimately they will have to pay for

[4] *See* "Testimony of Jeffrey W. Reynolds," p. 5, line 25.

[5] *See* "Testimony of Emmanuel Staurulakis," p. 7, line 16 – p. 9, line 20.

[6] *See* "Testimony of Steven E. Watkins," pp. 3-13.

these costs through higher prices or through offsets in operations by the RLECs." (p. 3, line 10)

- "Any requirement to apply TELRIC methods would result in transport and termination rates that, if applied here, would limit the RLECs in their recovery from CMRS Providers of the network costs incurred in transporting and terminating CMRS Providers' wireless service calls. ... This will, in turn, shift the RLECs' total network cost recovery unfairly and inequitably to other service rates ..." (p. 4, line 7)
- "... the consequences of the application of TELRIC method over the last decade has been rates that are much less than the rates that carriers otherwise charge for transporting and terminating traffic" (p. 4, line 20)
- "... then there will also be greater demands on Universal Service sources of cost recovery, and all users will be called upon for further funding of these sources beyond that which would have been necessary." (p. 4, line 27)
- "... Rural Telephone Companies may not recover their actual costs or the risk of recovery is increased. ... the small carrier may understandably decide to curtail further investment in networks ..." (p. 4, line 37)
- "Over the last several decades, policymakers at both the federal and state level have developed a rational policy approach under which cost recovery is spread across these available sources ... If the TELRIC pricing approach were applied, the carefully balanced and rational cost recovery policy plan would be undermined, and the success of that plan would be threatened." (p. 5, lines 21-41)

Q. What evidence did the Rural Coalition provide regarding the adverse economic impact of basing transport and termination rates on forward-looking economic costs?

A. I am not aware of any substantive evidence presented by the Rural Coalition witnesses. Instead, the witnesses made broad, general statements about the economic impact of rates based on forward-looking economic costs. Rather than being specific in terms of the impact on service rates, quality or availability, the statements by the witnesses were speculative. For example, there was no evidence about the difference between the rate a Coalition Member might want to propose and a rate that might be expected based on forward-looking economic costs. Rural Coalition witnesses did not estimate "lost revenues" due to this difference in rates and the impact, if any, on users of telecommunications services, again in terms of changes in service rates or service quality and availability. Furthermore, their "assessment" of economic impact did not address the potential positive benefits of greater availability of wireless services in rural areas.

Q. Turning to arguments made by the Rural Coalition witnesses, is the fact that forward-looking economic costs presently are not used to establish Universal Service high cost support for rural carriers reason to not base transport and termination rates on these costs?

A. No. First, USF high cost support is to assist in the recovery of basic local exchange service costs in high cost areas. On the other hand, transport and termination rates are to recover the "additional costs" caused when one carrier terminates another's traffic.[7] FCC public policy considerations that affect high cost support mechanisms are not necessarily the same as the FCC's pricing rules for interconnection. The latter are to compensate one carrier for only the additional costs it incurs and to charge the other for only the additional costs it causes.

Second, the network element costs considered in establishing USF high cost support for basic local service are different from the network element costs recovered in transport and termination rates. Basic local service costs considered for USF high cost support include the costs of loops, local switching (non-usage and usage-sensitive portions) and interoffice transport. Transport and termination, by comparison, causes additional costs for the usage-sensitive portion of local switching and interoffice transport – exclusive of the costs of loops and non-usage sensitive local switching.[8] The factors cited by the FCC in the quotation by Rural Coalition witnesses as reasons for not implementing forward-looking support mechanisms for rural carriers before January 1, 2001 - "lower subscriber density, small exchanges and a lack of economies of scale" –

[7] 47 U.S.C. § 252(d)(2)(A)(ii).

[8] *In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, First Report and Order, CC Docket Nos. 96-98 and 95-185, ¶ 1057, August 1, 1996 ("First Report and Order").

mostly affect loop costs.[9] To the extent that transport and termination costs are affected by subscriber density, small exchange size or economies of scale, there is nothing to prevent a TELRIC study from taking these factors into consideration.

Q. Does the Rural Coalition witnesses' citation to the FCC's *First Report and Order* demonstrate adverse economic impact?

A. No. Messrs. Reynolds and Staurulakis cite the following paragraph from the FCC's *First Report and Order*:

> We also address the impact on small incumbent LECs. For example, the Western Alliance argues that it is especially important for small LECs to recover lost contributions and common costs through termination charges. We have considered the economic impact of our rules in this section on small incumbent LECs. For example, we conclude that termination rates for all LECs should include an allocation of forward-looking common costs, but find that the inclusion of an element for the recovery of lost contributions may lead to significant distortions in local exchange markets. We also note that certain incumbent LECs are not subject to our rules under section 251(f)(1) of the 1996 Act, unless otherwise determined by a state commission, and certain other small incumbent LECs may seek relief from their state commissions from our rules under section 251(f)(2) of the 1996 Act.[10]

The paragraph states that the FCC considered the economic impact of its rules on small incumbent LECs, and indicates the FCC concluded that termination rates should include an allocation of forward-looking common costs, but not an element for the recovery of lost contributions. The FCC rules are consistent with any findings it made regarding the economic impact of the rules. With regard to

[9] *See* Staurulakis Testimony, p. 8, line 1.

[10] *First Report and Order*, ¶ 1059.

the last two sentences, the quoted language seems to be nothing more than a restatement of the FCC's recognition of the requirements of the exemption, suspension and modification provisions of Sections 251(f)(1) and 251(f)(2) of the Act, which anticipate a determination by the State commission of whether a rural carrier has met its burden as set forth in 251(f)(2). The language does not assume beforehand the result of such a petition.

Q. Are you aware of any statements by the FCC regarding the general applicability of the 251(f) provisions?

A. Yes. The following excerpt expresses what I understand to be the view of the FCC on this issue:

> Congress generally intended the requirements in section 251 to apply to carriers across the country, but Congress recognized that in some cases, it might be unfair or inappropriate to apply all of the requirements to smaller or rural telephone companies. We believe that Congress intended exemption, suspension, or modification of the section 251 requirements to be the exception rather than the rule, and to apply only to the extent, and for the period of time, that policy considerations justify such exemption, suspension, or modification. We believe that Congress did not intend to insulate smaller or rural LECs from competition, and thereby prevent subscribers in those communities from obtaining the benefits of competitive local exchange service. Thus, we believe that, in order to justify continued exemption once a bona fide request has been made, or to justify suspension, or modification of the Commission's section 251 requirements, a LEC must offer evidence that application of those requirements would be likely to cause undue economic burdens beyond the economic burdens typically associated with efficient competitive entry. State commissions will need to decide on a case-by-case basis whether such a showing has been made.[11] (footnote omitted)

[11] *First Report and Order*, para. 1262. Note, portions of the FCC's regulations regarding the so-called "Rural Exemption" were invalidated by the Eighth Circuit Court of Appeals; however, the invalidation was on jurisdictional, rather than substantive, grounds. The quotation above stands as the FCC's view of the application of the Telecommunications Act to rural carriers. *See Iowa Utilities Board, v. FCC*, 120 F.3d

Q. Mr. Watkins states that the cost of TELRIC studies will have adverse economic impacts on end users. Do you agree?

A. Mr. Watkins' statement is unsupported. As discussed later, the costs to produce TELRIC studies represent relatively small portions of Coalition Member revenues and monthly operating expenses per line. Furthermore, the long-term benefits from not burdening rates with embedded costs, revenues lost to competition or subsidies may more than offset even these costs.

Q. Will a requirement to apply TELRIC methods result in transport and termination rates that would limit the Coalition Members in their recovery of costs incurred in transporting and terminating mobile-to-land traffic?

A. No. TELRIC pricing permits the Coalition Members to recover the costs they will incur in the future in transporting and terminating mobile-to-land traffic. The Coalition Members may determine forward-looking costs and consider any risks and uncertainties about future costs, as long as the input data to the TELRIC studies are reasonable. Mr. Watkins' view apparently is that the relevant costs to be recovered are the Coalition Members' embedded costs. These costs are largely sunk and not representative of the costs the Coalition Members will incur in the future as efficient network operators.

753,803 (8th Cir. 1997) ("Therefore, we vacate rule 51.405 [(a), (c) and (d)] on the grounds that the FCC exceeded its jurisdiction in promulgating this rule, and we decline to address the arguments attacking it on substantive grounds.").

Q. Will there be a shift of Coalition Member network costs to other service rates?

A. There will not be a shift of the costs caused by CMRS Providers to other service rates or other users of telecommunications services. These costs are the forward-looking economic costs of transport and termination. Rates set on the basis of forward-looking economic costs fully compensate the Coalition Members. Consequently, there is no shift of costs to other service rates.

Now, if Mr. Watkins is arguing that someone must pay for embedded costs, revenues lost to competition or previous subsidies, this is another matter, which goes beyond establishing a rate that compensates Coalition Members for the costs they incur in transporting and terminating mobile-to-land traffic. In establishing the TELRIC pricing rules, the FCC considered the public interest ramifications of establishing interconnection rates above forward-looking economic costs.

> The price levels set by state commission will determine whether the 1996 Act is implemented in a manner that is *pro-competitor* and favors one party (whether favoring incumbents or entrants) or, as we believe Congress intended, *pro-competition*.[12]

> In dynamic competitive markets, firms take action based not on embedded costs, but on the relationship between market-determined prices and forward-looking economic costs. If market prices exceed forward-looking economic costs, new competitors will enter the market. If their forward-looking economic costs exceed market prices, new competitors will not enter the market and existing competitors may decide to leave. Prices for unbundled elements under section 251 must be based on cost under the law, and that should be read as requiring that prices be based on forward-looking economic costs.[13]

[12] *Id.*, ¶ 618.

[13] *Id.*, ¶ 620.

> We reject various arguments raised by parties regarding the recovery of costs other than forward-looking economic costs in section 251(c)(2) and (c)(3) prices, including the possible recovery of: (1) embedded or accounting costs in excess of economic costs; (2) incumbent LECs' opportunity costs; (3) universal service subsidies; and (4) access charges.[14]

Q. Do you agree with Mr. Watkins' statement that a consequence of the application of TELRIC pricing over the last decade has been rates that are less than other rates for transport and termination?

A. In making this statement, Mr. Watkins seems to be indicating that transport and termination rates based on forward-looking economic costs are less than switched access rates. Generally, this is true. However, this result was not unintended, and the result has not been to the detriment of telecommunications service users. Switched access rates are designed to recover the embedded costs of existing networks and business operations, regardless of their efficiency. They also include subsidies. The FCC specifically ruled in §51.515 that switched access charges not be used for pricing exchange network elements, which include the same network elements used to provide transport and termination.

> Neither the interstate access charges described in part 69 of this chapter nor comparable intrastate access charges shall be assessed by an incumbent LEC on purchasers of elements that offer telephone exchange or exchange access services.

The FCC intended for transport and termination rates to be based on the costs one carrier causes another – the forward-looking economic costs. The FCC has taken steps in recent years to reduce interstate switched access rates toward forward-

[14] *Id.*, ¶ 621.

looking economic costs and to address traditional subsidies through other mechanisms.

Q. Do you have any comments on Mr. Watkins' assertion about the potential impact of TELRIC pricing on USF high cost support?

A. The question of the recovery of embedded costs for basic local service provided by rural carriers in high cost areas is a matter of federal and State regulatory policy. However, rates set at forward-looking economic costs compensate the Coalition Members for costs incurred in transporting and terminating mobile-to-land traffic. Therefore, rates based on proper TELRIC studies will not cause USF high cost support to be higher due to under-recovery of costs caused by the CMRS Providers, since those costs will in fact be recovered.

Q. Do you agree with Mr. Watkins' testimony that establishing rates based on forward-looking economic costs "may" curtail further investment in Coalition Member networks?

A. No, not if forward-looking economic costs are properly estimated taking into consideration future risks and uncertainties. FCC Rule §51.511 defines the forward-looking economic cost per unit as:

> The forward-looking economic cost per unit of an element equals the forward-looking economic cost of the element, as defined in Sec. 51.505, divided by a reasonable projection of the sum of the total number of units of the element that the incumbent LEC is likely to provide to requesting telecommunications carriers and the total number of units of the element that the incumbent LEC is likely to use in offering its own services, during a reasonable measuring period.

Thus, to establish rates based on forward-looking economic costs, a Coalition Member should estimate its current cost to purchase and install transport and termination network elements (switches, interoffice cables and transmission equipment) and its recurring annual capital costs and operating expenses expected with these network elements. It should then divides these annual costs by projected total demand. Costs include the weighted average cost of capital (interest on debt and required return on equity).

Anytime a business in competitive markets makes capital investment decisions, it must do the same. It forecasts plant investments, capital costs and operating expenses, and expected total demand – with consideration for risks and uncertainties. TELRIC pricing rules permit Coalition Members to estimate forward-looking economic costs and total demand to arrive at rates that are compensatory. By including a margin in the rates to cover the required return on equity and contribution to common costs, the incentives are in place for capital investment.

Q. What comments do you have regarding Mr. Watkins' assertion that the TELRIC pricing approach will undermine traditional cost recovery plans?

A. This issue also goes beyond setting transport and termination rates to recover the costs caused by the CMRS Providers. Congress and the FCC recognized that traditional cost recovery plans – switched access charges, USF high cost support and others – would need to change. The FCC and state regulators over the past

ten years have made substantial changes to adjust to a competitive environment. Establishing transport and termination rates based on forward-looking economic costs is part of that plan, not something that undermines the plan.

III. ARE TELRIC STUDIES UNDULY ECONOMICALLY BURDENSOME?

Q. What is the basis for the Coalition Members' claim that TELRIC studies are unduly economically burdensome?

A: Witnesses Reynolds and Staurulakis provided estimates of the cost to produce TELRIC studies, although they stated that the estimates were incomplete.[15] In addition, the witnesses, including Mr. Watkins, make these arguments with respect to this issue:

- The costs of TELRIC studies – including the costs of Coalition Member personnel and external consultants to produce the studies and support them in hearings – are an unnecessary burden on the companies. (*See* Stauralakis, p. 10, line 15.)
- The FCC's view of symmetry in reciprocal compensation rates indicates the FCC "clearly understood that … conducting a forward-looking cost study is a burden that can be avoided." (*See* Reynolds, p. 10, line 6.)
- "… a company specific study is not necessary to arrive at a rate that reasonably approximates the cost of the transport and termination of traffic." (Stauralakis, p. 11, line 13)

[15] *See* Reynold's Testimony, pp. 8-9, and Staurulakis' Testimony, p. 10.

- "... every dollar not wasted performing a TELRIC study is available for other purposes including but not limited to the maintenance of existing services, and network upgrades to foster the provision of broadband and advanced services in rural areas of Tennessee ..." (Stauralakis, p. 11, line 17)
- "Hundreds of interconnection agreements between CMRS Providers and smaller LECs have been finalized across the country without any need or requirement for any party to perform TELRIC studies ..." (Watkins, p. 4, line 37)

Q. What is your opinion of the Rural Coalition cost estimates to perform TELRIC studies?

A: In my opinion, the cost estimates are dubious.

- No details were provided to substantiate the estimates. There was no information regarding required activities, activity times, labor costs for Coalition Member personnel and consultants, and expenses. It is not possible to evaluate the estimates for reasonableness.
- Witnesses Reynolds and Staurulakis indicated their cost estimates are incomplete and that other unspecified costs must be included.
- The cost estimates include the costs of producing TELRIC studies and defending the studies in hearings. With properly prepared TELRIC studies, there would be little additional cost to defend the studies. On the other hand, if a Coalition Member uses study input data – such as embedded plant costs, low plant utilization levels and others – to justify rates above forward-looking

economic costs, then the Coalition Member has chosen to produce a non-TELRIC compliant study that requires unnecessary costs to defend.

- Finally, the cost estimates are high. Exhibit WCC-2 contains a summary of tasks involved in TELRIC studies and the activity times for each. This document is from my affidavit attached to the *CMRS Providers' Response to the Tennessee Rural Coalition's Supplemental Statement Regarding Petition for Section 251(f)(2) Suspension and Modification of Section 251(B)(5) TELRIC Pricing Methodology*. I would expect the average cost to produce a TELRIC study to be approximately $15,200.[16] This is well below the cost estimates made by most of the Rural Coalition.[17]

Q. Are TELRIC studies economically burdensome to Coalition Members?

A: No, they are not. Exhibit WCC-3 provides two measures of the impact of TELRIC study costs on the Coalition Members – the cost of the TELRIC study as a percentage of a Coalition Member's annual revenues and the monthly cost per line for the TELRIC study over five years.

[16] $15,196 / TELRIC study = (5.63 days for internal personnel / Coalition Member X 8 hours X $85/hour + 6.12 days for consultants / Coalition Member X 8 hours X $200/hour) + (7.88 days shared among eight Coalition Members for consultants X 8 hours X $200/hour) / 8 Coalition Members.

[17] [redacted] was the only Coalition member to provide information separating the estimated costs of the TELRIC study from hearing preparation and participation. See *Supplemental Response of* [redacted] *to the CMS Provider's Interrogatories and Requests of Production of Documents to Rural Coalition Members*. In that response, [redacted] attached a letter from Mr. Reynolds dated March 21, 2007, which indicates a total cost of $[redacted], of which $[redacted] was for "completion of cost study". [redacted] has submitted no evidence of prior work on a TELRIC study, so $[redacted] is essentially the total estimated cost of the study. Mr. Reynold's cost estimate for "completion of cost study" is strikingly close to the average estimated cost to produce a TELRIC study discussed above ($15,200).

- The cost of a TELRIC study, based on Coalition Member estimates, is at most [redacted] percent of revenues. For 19 of 21 Coalition Members the percentage is less than [redacted] percent of [redacted] annual revenues.
- The cost of a TELRIC study, based on the CMRS Providers' estimate of $15,200 and supported by Mr. Reynold's cost estimate for [redacted], is less than [redacted] percent of annual revenues for all Coalition Members. For 19 of 21 Coalition Members, the percentage is less than [redacted] of [redacted] percent. Given the Coalition Members' relatively small costs to perform TELRIC studies, it would seem the companies are able to absorb these costs.
- If the Coalition Members were inclined to recover these estimated costs from end users, the additional monthly costs per line are not extraordinary. For example, when the Coalition Members' cost estimates are divided by 60 months (or five years), the monthly costs per line range from $[redacted] to $[redacted].[18]
- When the CMRS Providers' more reasonable estimate of $15,200 for a TELRIC study is used, monthly costs per line range from $[redacted] - $[redacted] over the same five year period.

It also is important to note that the cost of producing TELRIC studies for the smallest Coalition Members likely is less than the average cost estimates, because

[18] *Order Denying Amended Petition and Establishing Dates for Implementation of Local Number Portability* (Sept. 6, 2005) Dkt. No. 03-00633, p. 17 (*LNP Order*) (Authority found that the costs associated with LNP implementation would not cause users of telecommunications services to "suffer significant adverse economic impact" or that the LNP requirement was "unduly economically burdensome" even though a customer surcharge "of between 4 cents ($0.04) and 26 cents ($0.26) a month per access line for five years" would result. The TRA concluded that, "This range is extremely reasonable").

of their simpler network architectures. In a moment, I will describe some simple cost algorithms that can be used for these companies, further reducing TELRIC study costs.

Q. What makes RLEC TELRIC studies for transport and termination more straightforward and less costly than full-blown TELRIC studies produced by Regional Bell Operating Companies (RBOCs)?

A. Exhibit WCC-4 illustrates the network elements involved in transport and termination of mobile-to-land traffic for the typical RLEC. For small RLECs, transport and termination may only involve a transport fiber cable from the meet point with a transit carrier for a few miles to a single end office switch. For other RLECs, additional transport cable and transmission equipment may be required to reach remote switches. BellSouth in Tennessee has many switches and hundreds of miles of interoffice cable in its interoffice networks. In addition, transport and termination does not involve loop plant, or the fiber and copper cables connecting end office switches to customer premises. Thus, the fewer network elements and the exclusion of loops from transport and termination make TELRIC studies for RLECs much less complicated than RBOC studies for a full set of unbundled network elements or, for that matter, the determination of basic local exchange costs for USF high cost support.

Q. Have the CMRS Providers provided "tools" that might be used to determine forward-looking economic costs for transport and termination?

A. Yes. Exhibit WCC-5 contains Excel spreadsheets provided as an exhibit to the *CMRS Providers' Response to the Tennessee Rural Coalition's Supplemental Statement Regarding Petition for Section 251(f)(2) Suspension and Modification of Section 251(B)(5) TELRIC Pricing Methodology.* These spreadsheets can be adapted to the circumstances of each Coalition Member to estimate forward-looking economic costs for transport and termination. They require a modest amount of input data. In addition, Exhibit WCC-6 shows a simple set of algorithms that can be used to estimate forward-looking economic costs for those Coalition Members with a single switch.[19]

Q. Do you believe the Coalition Members have this input data or can readily obtain it?

A. Yes. Based on the responses to data requests, it appears that the Coalition Members have the data needed to produce TELRIC studies or can obtain this data from their consultants. Exhibit WCC-7 contains copies of Coalition Member responses to a CMRS Provider data request asking about the availability of key TELRIC study input data. The responses indicate that input data [redacted].

Q. The Rural Coalition witnesses also argue that the symmetric nature of reciprocal compensation alleviates the need for TELRIC studies. Do you agree?

[19] Based on LERG data for June, 2006, companies with single switches include Century Tel. of Adamsville, Century Tel. of Claiborne, Concord Telephone Exchange, DeKalb Telephone Cooperative and Humphreys County Telephone.

A. No. If traffic exchanged between a Coalition Member and a CMRS Provider is balanced – that is, each sends equal amounts of traffic to the other – a "bill and keep arrangement" would be appropriate; and, no transport and termination rate would be necessary. In that case the symmetrical nature of rates becomes superfluous. When traffic is not balanced, a transport and termination rate is required, and this rate should be based on forward-looking economic costs. In my opinion, the fact that the rate may be symmetrical has no bearing on how the rate should be developed. It is also worth pointing out that FCC rules specifically allow wireless carriers to seek asymmetrical rates although it is my understanding that the CMRS Providers are not seeking such rates in the related arbitration proceeding before the Authority.[20]

Q: Do you agree with Mr. Stauralakis's statement that "a company specific study is not necessary to arrive at a rate that reasonably approximates the cost of the transport and termination of traffic?"

A. No, I do not. This argument has been attempted in other states to justify switched access charges for reciprocal compensation. As I described earlier, switched access charges are inappropriate for transport and termination rates, because they recover embedded costs and produce subsidies, two conditions FCC Rule §51.505 does not permit. A company-specific TELRIC study is necessary to determine forward-looking economic costs, which likely are well below its intrastate and interstate switched access rates.

[20] *See* 47 C.F.R. § 51.711(b).

Q: Do you agree with Mr. Stauralakis's assertion that TELRIC studies are wasteful?

A. No. Whether Coalition Members might, if left to their own devices, prefer to use $50,000, $30,000 or $15,000 in some other way does not seem relevant to the question of whether they are entitled to a suspension of the FCC TELRIC requirements.

Q. Is the fact that interconnection agreements are sometimes reached without TELRIC studies relevant to the determination of whether a suspension should be permitted?

A. No, it is not, though Mr. Watkins claims otherwise.[21] RLECs often make the argument that transport and termination rates have been decided in commercial negotiations, rather than in arbitration. There may be other business considerations that cause RLECs and CMRS Providers to agree on rates at levels different from forward-looking economic costs. CMRS Providers have the right to request TELRIC studies to evaluate proposed transport and termination rates, and these studies are required as the basis for rate-setting in arbitrations.[22]

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[21] *See* Watkins Testimony, p. 4, line 37.

[22] *See* 47 C.F.R. 51.505(e).

IV. ARE REQUIREMENTS TO PRODUCE TELRIC STUDIES AND SET TRANSPORT AND TERMINATION RATES AT FORWARD-LOOKING ECONOMIC COSTS INCONSISTENT WITH PUBLIC INTEREST?

Q. How did the Rural Coalition witnesses address this issue?

A. In arguing that TELRIC studies and transport and termination rates based on forward-looking economic costs would have adverse economic impact and be unduly economically burdensome, the Rural Coalition attempted to also argue these requirements would not be consistent with the public interest. However, as I have testified, the Rural Coalition has not shown the extent of any supposed rate increases for other services or that service quality and availability will be negatively affected. In addition, evidence indicates that TELRIC studies are not unduly economically burdensome. So, it seems to me that the Rural Coalition witnesses have only speculated about effects not in the public interest. In addition, those witnesses have not considered the positive effects for telecommunications users of rates based on forward-looking economic costs.

Q. Does this conclude your testimony?

A. Yes.

TESTIMONY OF W. CRAIG CONWELL

EXHIBIT WCC-1

W. Craig Conwell
405 Hammett Road
Greer, SC 29650

(864) 268-5306
conwells@bellsouth.net

Independent Consultant **1996 - 2007**

Mr. Conwell provides professional services related to telecommunications cost analysis. These services include the following:

- Supporting wireless carriers in negotiations and arbitrations of reciprocal compensation rates with incumbent local exchange carriers (ILEC). This involves reviewing ILEC cost studies for compliance with FCC rules for reciprocal compensation and giving expert testimony before state regulatory commissions.

- Performing cost studies and financial analyses used by ILECs in the valuation of their telephone plant for tax purposes.

- Performing cost studies for telecommunications services, such as Digital Subscriber Line (DSL), hosted Voice over Internet Protocol (VoIP), Frame and Asynchronous Transfer Mode (ATM) services and others. The studies are used in product planning, pricing and cost management.

- Providing analytical support and advice to wireless carriers on the establishment of state Universal Service Funding mechanisms.

- Providing advice and assistance to telephone companies on the development of cost models for estimating plant investments, capital costs and operating expenses.

In addition, Mr. Conwell has taught courses in telecommunications cost analysis.

Arthur Andersen & Co. **1989 - 1996**

Mr. Conwell served as a firm-wide expert on telecommunications cost accounting and provided advice to consulting teams working for telephone companies in the US and overseas on cost-related projects. These projects included the following:

- Reviewing Bellcore's Switching Cost Information System (SCIS) for the FCC in its Open Network Architecture proceeding. SCIS was used by the regional Bell Operating Companies (RBOCs) to develop switching element costs.

- Performing a benchmark comparison of US - Canadian toll costs and testifying before the Canadian Radio and Telecommunications Commission (CRTC) on differences between US and Canadian toll costs.

- Developing a "value driver" approach for identifying key performance measures using activity-based costing. The approach was used in consulting projects with telephone companies to improve performance measurement.

- Advising on the design of telephone company cost accounting systems used to measure service costs.

- Developing and teaching for six years a service cost course sponsored by the United States Telephone Association. The course was attended by students from telephone companies, regulatory bodies and other companies in the telephone industry.

Volt Delta Resources **1988 - 1989**

Mr. Conwell worked for the President of Volt Delta Resources and assisted in planning and business development for database services offered to telephone companies. He also participated in the development of a new cost accounting system for a Bell Operating Company.

South Central Bell / AT&T **1974 - 1987**

Mr. Conwell began work with South Central Bell in 1974 in Engineering where he produced cost studies for pricing telephone services. In 1979, he was promoted to district manager and transferred to AT&T where he participated in operations reviews of service costing and ratemaking procedures across the Bell Operating Companies.

In 1981, Mr. Conwell was promoted to division manager as member of the AT&T planning and financial management staff that analyzed business plans for AT&T's Office of the Chairman. Subsequently, he served as a division controller in AT&T Information Systems and division manager in AT&T General Business Systems responsible for marketing and sales channel support.

Education

Bachelor of Industrial Engineering from Auburn University (1972). Masters of Science in Industrial Engineering (Operations Research) from Auburn University (1974).

TESTIMONY OF W. CRAIG CONWELL

EXHIBIT WCC-2

EXHIBIT 3

AFFIDAVIT OF W. CRAIG CONWELL

STATE OF SOUTH CAROLINA

COUNTY OF GREENVILLE

BEFORE ME, the undersigned authority, duly commissioned and qualified in and for the State and County aforesaid, personally came and appeared W. Craig Conwell, who being by me first duly sworn deposed and said that:

I, W. Craig Conwell, being of lawful age and duly sworn upon my oath, do hereby depose and state as follows:

Introduction

1. I am an independent consultant specializing in telecommunications cost analysis. My business address is 405 Hammett Road, Greer, SC, 29650.

2. I have Bachelors and Master of Science degrees in Industrial Engineering from Auburn University in Auburn, AL. I have over 30 years of experience in the telecommunications industry, with a broad background in telecommunications cost analysis as an employee of the Bell System, with Arthur Andersen & Co. in its telecommunications consulting practice, and for the past ten years as an independent consultant. In recent years, I have been extensively involved in negotiations and arbitrations of reciprocal compensation rates between incumbent local exchange carriers (ILECs) and wireless carriers. I have analyzed numerous ILEC cost studies for compliance with the FCC rules for Total Element Long Run Incremental Costs (TELRIC), and I have testified as an expert cost witness on behalf of wireless carriers in

one or more arbitrations in six states, including Tennessee.[1] I also was involved on behalf of the AT&T (previously SBC) local exchange carriers in the arbitrations establishing rates for unbundled network elements and collocation. I have provided expert testimony on one or more occasions in 13 states. Over the years, I have developed cost models, performed cost studies, participated in the design of telecommunications cost accounting systems, and taught service cost courses for the United States Telephone Association and telephone company staffs.

3. I have prepared numerous estimates of the required effort to perform cost studies and other consulting projects. As a Director with Arthur Andersen & Co., I was responsible for preparing proposals for client engagements and managing teams of consultants. The proposals included estimates of the number of personnel required for projects and hours of consulting effort. The proposals became the basis for consulting contracts. As an independent consultant, I am frequently asked by clients to provide estimates of time and necessary effort prior to undertaking a project. The process of developing project estimates involves: defining client needs and project deliverables, identifying key assumptions, defining the major tasks, identifying resource requirements, defining workflow, and estimating work days.

Purpose and Summary of Affidavit

4. The purpose of my affidavit is to provide an estimate of the effort required to perform a *forward-looking economic cost study* of transport and termination by a small ILEC. In providing the estimate, I will describe the following:

- Cost study deliverables.
- Key assumptions affecting cost study tasks, resource requirements and work effort.
- Major cost study tasks.
- Resource requirements.

[1] Cause Nos. PUD 200200150 and PUD 200300771 in Oklahoma, Docket No. 03-00585 in Tennessee, Case Nos. IO-2005-0468 and TO-2006-0147 in Missouri, Case Nos. U-14678 and U-14889 in Michigan, A.06-02-028-038, 040 in California, and Docket Nos. TC06-036 – TC06-042 in South Dakota.

- Estimated total work days.

5. Based on the assumptions listed below, I have estimated that the activities required for each ILEC to complete a TELRIC study (using exclusively company-specific data) will total, on average, 11.75 days; in addition, 7.88 days of work will be required for activities shared among all ILECs performing cost studies. This represents the time of activities from initial study planning, through data gathering and cost analysis, to preparation of study documentation. There are numerous factors that will affect the total effort (productive days of work) to perform studies. I describe these factors below. ILECs planning to undertake cost studies and making estimates of internal and external resource requirements should take these and other factors into consideration to prepare company-specific estimates.

Estimate of Cost Study Effort

6. *Cost Study Deliverables*. The cost study is to provide for each ILEC the following:

- A summary of transport and termination costs. These costs are to comply with FCC Rules at 47 C.F.R. §§51.505 and 51.511. They are to represent the forward-looking economic costs to transport and terminate telecommunications traffic originated by wireless carriers – that is, mobile-to-land traffic.[2] The summary is to provide a breakdown of transport and termination costs in terms of end office switching, transport-fiber cable and transport-transmission equipment.
- An electronic, Excel-based model showing the calculation of transport and termination costs. An exhibit to the CMRS Providers' Brief contains a copy of an Excel model used to compute transport and termination cost benchmarks. The cost study is to produce a similar Excel workbook, modified to reflect the particular circumstances of the ILEC.

[2] See 47 C.F.R. 51.505 for the definition of "forward-looking economic cost."

- Supporting documentation consisting of a description of key assumptions, the analyses and work papers supporting input data used in the cost model, and relevant source documents.

7. *Key Assumptions.* In preparing the estimate of work effort to produce these deliverables, the following key assumptions are made:

- Cost study input data are company-specific, as necessary. However, in some cases, input data may not differ materially among companies. Examples include current plant costs, capital cost factors and economic lives. When the same or similar input data can be used by more than one company, the effort to develop these data is assumed to be shared among companies. For this estimate, ten ILECs are assumed to be producing cost studies, so the effort of preparing common input data is assumed to be shared among all ten companies.
- An individual with experience and proficiency in performing transport and termination cost studies and Total Element Long Run Incremental Cost (TELRIC) model development produces the study and manages the project.
- ILEC personnel are available to provide cost study assumptions and input data. This includes information on current and forward-looking network configuration, current costs to purchase and install network elements, current and projected total demand, financial reports, *etc.*
- ILEC records regarding current network configuration (network diagrams) are available.
- ILEC records of current network element capacities and utilization (total demand) are maintained. These records show current switch equipped line and trunk capacity and in-service quantities, cable route fiber capacity and utilization, and transport transmission equipment capacities and utilization (DS1 equivalents).
- ILEC personnel can obtain vendor quotes or produce estimates of probable costs to purchase and install transport and termination network elements.

These include switches, fiber cable and transport transmission equipment (add/drop multiplexers, fiber terminals, *etc.*) Consulting engineers may have models for estimating probable plant costs.

- Since the effort for some cost study tasks depend on the size and complexity of the ILEC, a typical small ILEC is assumed in estimating the days of effort required. An ILEC with five to six end offices, a single SONET ring and one to two meet points with the transit carrier is assumed. ILECs with fewer end offices, point-to-point circuits connecting to transit carriers, and perhaps no remotes have simpler interoffice networks, and the effort required to determine transport and termination costs is less for these companies.

8. *Major Cost Study Tasks.* Attachment A lists the necessary tasks for an ILEC to produce a transport and termination cost study. The tasks are grouped among six categories. These include: initial background information gathering, three categories for the calculation of switching, transport fiber and transport transmission equipment investments, the calculation of annual cost factors and costs per minute of use (MOU), and the final review and preparation of documentation. Tasks are identified as to whether they must be repeated for each ILEC (code = 'Y'), or whether the task is performed once for all ILECs (code = 'N').

9. *Resource Requirements.* The resources required to perform transport and termination cost studies are largely *labor.* Studies can be performed using personal computers, Excel software and common information sources, such as electronic accounting records, records of network element capacities and utilization, and others. Labor resource requirements are indicated for each task in terms of the number of days of productive effort required. The following tasks are assumed to be required for producing an ILEC study: (1) obtaining background information and source data, (2) providing forward-looking estimates of total demand and capacity requirements for network elements, (3) identifying currently available technologies, (4) efficiently sizing network elements, (5) obtaining current plant cost data, (6) plant investment calculation, (7)

annual cost factor development and calculation of costs per MOU, (8) performing final review and documentation preparation, and (9) study management. "Days of effort" are provided for each task. These represent the cumulative productive days of work necessary to complete the task. The work effort may occur over several days and in parallel with other tasks.

10. There are several factors that will affect the days of effort or activity times.

- Certain tasks for ILECs with few end offices (one or two) with direct point-to-point transport links to transit carriers are more straightforward, resulting in fewer days of effort and lower costs. For example, obtaining background information (tasks 2-7 on Attachment A) involves dealing with fewer network elements and less complexity. As result, the number of days required to gather this information may be less than 3.25 days included in the estimate.
- When transport and termination cost studies are to be produced for multiple ILECs, the activity times may decline as individuals become more proficient in the tasks. Since calculating annual cost factors requires the same methods and source data, this effort should become more routine, even though factors must be computed for each company.
- The average time per ILEC for activities shared by two or more ILECs (*e.g.*, preparing cost study work plan (task 1 on Attachment A), obtaining vendor quotes (task 9), *etc.*) varies with the number of ILECs. The estimate assumes ten ILECs are producing transport and termination cost studies, so $1/10^{th}$ of the activity times for shared activities is attributed to each ILEC.

Estimated Total Work Days. Activity times (in days) are summed and shown on rows 56 and 57 of Attachment A. The activities required for each ILEC total 11.75 days; in addition, 7.88 days of work are required for activities shared among all ILECs performing cost studies.

W. Craig Conwell

W. Craig Conwell

SWORN TO AND SUBSCRIBED BEFORE
ME THIS 2 DAY OF November, 2006.

SCOTT M. PITTS
NOTARY PUBLIC
SOUTH CAROLINA
My Commission Expires August 11, 2016

My Commission Expires August 11, 2016

Attachment A

Estimate to Produce Forward-Looking Economic Cost Study

Transport and Termination

	Task Category	Task No.	Task	Task Repeated for Each ILEC?	Days of Effort: ILEC Personnnel	Engineer	Cost Analyst	Total
6	Background information gathering	1	Prepare cost study work plan.	N	-	-	0.75	0.75
7		2	Obtain recent financial data - balance sheets, plant account balances, expenses	Y	0.13	-	-	0.13
8		3	Obtain network diagram showing switches, cable routes, transit carrier meet points, transport systems.	Y	0.50	-	-	0.50
9		4	Obtain end office switching information - CLLI codes, host-remote clusters, capacities and in-service quantities.	Y	0.25	-	-	0.25
10		5	Obtain interoffice (IO) fiber cable information - cable routes, cable types and sizes, fibers in service by type of use and spare capacity.	Y	0.25	-	-	0.25
11		6	Obtain interoffice transport transmission equipment information - transport system type, system size, system routing, equipment capacities and in-service quantities (DS1 equivalents) at each network node.	Y	0.50	-	-	0.50
12		7	Obtain current traffic data - total switched and interoffice minutes of use (MOU) per line and interoffice MOU per switch trunk.	Y	0.50	-	-	0.50
13		8	Advise on information requirements. Review background material.	Y	-	-	0.38	0.38
14								
15			Subtotal		2.13	-	1.13	3.25
16								
17	Calculation of switching investment	9	Obtain detailed vendor quotes or develop probable current costs to purchase and install typical, new standalone/host and remote switches (two typical configurations). Cost details show components of switch costs, driver of component quantities (lines, trunk DS1s, etc.), unit prices and other costs of construction	N	-	1.50	-	1.50
18		10	Determine usage-sensitive portion of end office switching investment based on analysis of switch component capacities and demand variables causing exhaustion of capacity.	N	-	1.00	0.50	1.50
19		11	For each end office, estimate forward-looking capacity requirements - equipped lines, host-remote trunks, IO trunks, etc.	Y	0.38	-	0.13	0.50
20		12	Estimate for standalone/host and remote switches typical switch building space requirements, land and building costs per sq. ft., power plant investment per central office and percentage of power plant investment attributable to switching.	N	-	0.75	-	0.75
21		13	Structure cost model and enter data to compute usage-sensitive investment per switch and overall usage-sensitive investment per line.	Y	-	-	0.38	0.38
22								
23	Calculation of transport fiber cable investment	14	Estimate IO fiber cable route mileage by cable type and size from network diagram.	Y	0.25	-	-	0.25
24		15	Obtain current fiber cable installation costs by cable type and size.	N	-	0.38	-	0.38
25		16	Estimate forward-looking total demand for interoffice fiber cable-miles for transport system(s), loop carrier system(s), leased fibers and other.	Y	0.75	-	0.13	0.88
26		17	Estimate forward-looking total demand in DS1 equivalents (switch trunks and dedicated circuits) for each ring and/or point-to-point circuit.	Y	0.75	0.50	0.13	1.38
27		18	Estimate forward-looking annual minutes of use per switch trunk (DS0).	Y	0.13	0.13	-	0.25
28		19	Structure cost model to compute transport fiber cable investment per DS1, per switch trunk (DS0) and per IO minute of use based on total IO fiber cable investment (per ring or point-to-point circuit), the portion of fiber-miles attributable to the IO transport system, and total DS1 equivalents per ring or point-to-point circuit.	N	-	-	0.75	0.75
29		20	Enter data to compute company-specific transport fiber cable investment per IO MOU.	Y	-	-	0.25	0.25
30								
69								

	A	B	C	D	E	F	G	H
1	**Estimate to Produce Forward-Looking Economic Cost Study**							
2								
3	**Transport and Termination**							
4					Days of Effort			
5	Task Category	Task No.	Task	Task Repeated for Each ILEC?	ILEC Personnnel	Engineer	Cost Analyst	Total
31	Calculation of transport transmission equipment investment	21	Estimate total demand for switched and dedicated DS1 circuits at each network node or wirecenter and for each IO transport system. Determine efficient transport system size (OC48, OC12, OC3 or smaller).	Y	-	0.50	-	0.50
32		22	Obtain vendor quotes or develop probable current costs to purchase and install typical transmission equipment at each network node for SONET rings and/or point-to-point circuits - add/drop multiplexer, optical distribution panel, pigtails, digital cross connect, *etc.*, as necessary.	N	-	0.50	-	0.50
33		23	Develop power plant loading factor.	Y	-	-	0.25	0.25
34		24	Structure cost model to compute (1) transport transmission equipment investment per network node, (2) investment per termination at DS1 and DS0, and (3) investment per IO minute of use based on average terminations (1, 3 or more) per mobile-to-land call.	N	-	-	0.75	0.75
35		25	Enter data to compute company-specific transport transmission equipment investment per IO MOU.	Y	-	-	0.25	0.25
36								
37	Calculation of annual cost factors and costs per MOU	26	Research/estimate forward-looking debt ratios, costs of debt and equity, effective income tax rate and economic lives.	N	-	-	0.75	0.75
38		27	Compute capital cost factors.	N	-	-	0.25	0.25
39		28	Calculate direct expense factors based on recent financials, adjusted as necessary to remove retail service costs (switching, transmission equipment, cable, network support assets and general support assets).	Y	0.13	-	0.50	0.63
40		29	Calculate support asset factors for plant non-specific expenses and the costs of network support and general support assets.	Y	0.13	-	0.50	0.63
41		30	Calculate common cost factor based on recent corporate operations expenses, adjusted to remove costs of activities attributable to retail services or other specific services.	Y	0.13	-	0.38	0.50
42		31	Enter cost factors in cost model to compute recurring annual costs and costs per MOU associated with switching, transport fiber cable and transpor transmission equipment.	Y	-	-	0.25	0.25
43								
44			Subtotal		2.63	5.25	6.13	14.00
45								
46	Final review & preparation of documentation	32	Review cost model and results for accuracy and reasonableness.	Y	0.38	0.25	0.38	1.00
47		33	Document key assumptions.	Y	-	-	0.25	0.25
48		34	Organize supporting workpapers and analyses.	Y	-	0.13	0.25	0.38
49		35	Copy and organize all source documents.	Y	0.50	-	0.13	0.63
50		36	Assemble documentation.	Y	-	-	0.13	0.13
51								
52			Subtotal		0.88	0.38	1.13	2.38
53								
54								
55			Total Work Effort					
56			Activities specific to individual ILECs		5.63	1.50	4.63	11.75
57			Activities shared among ILECs		-	4.13	3.75	7.88
58								
59								
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TESTIMONY OF W. CRAIG CONWELL

EXHIBIT WCC-3

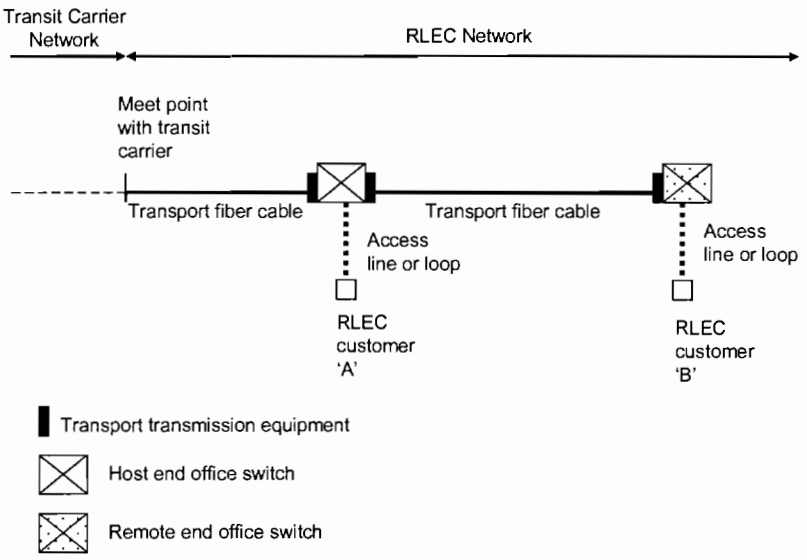
PUBLIC VERSION

No Attachments

TESTIMONY OF W. CRAIG CONWELL

EXHIBIT WCC-4

RLEC Transport and Termination



TESTIMONY OF W. CRAIG CONWELL

EXHIBIT WCC-5

EXHIBIT 4

Forward-Looking Economic Cost Methodology For Rural ILEC Transport and Termination of Mobile-to-Land Traffic

Background

Rules for establishing cost-based rates for compensation of incumbent local exchange carriers (ILECs) transport and termination of "telecommunications traffic" originating on the networks of wireless carriers and terminating on ILEC local networks ("mobile-to-land traffic") are specified by the FCC in 47 § CFR 51.705. These rules require that transport and termination rates not exceed *forward-looking economic costs* as defined in 47 CFR §§ 51.505 and 51.511. The rules are commonly referred to as the TELRIC (Total Element Long Run Incremental Costs) rules.[1] This paper provides a relatively simple and inexpensive methodology for computing transport and termination rates that can be applied by any rural LEC -- without the need of an elaborate and expensive cost study.

The methodology requires the use of certain company-specific costs but also suggests the use of certain proxy factors developed by the FCC and others. The CMRS Providers will accept the following methodology as used by any rural LEC to compute transport and termination rates. The parties may, however, still have disputes about specific inputs used. Thus, where appropriate below, The CMRS Providers will suggest inputs that they believe are appropriate, and that the CMRS Providers will not object to if employed by a rural LEC.

At various points, the methodology indicates that the CMRS Providers will accept non-proxy costs if supported by "proper documentation." Such documentation would include, in the case of prices, current vendor price quotations. In the case of company-specific data, it would include network diagrams, company property records and the like.

Termination – End Office Switching Costs Per Minute of Use

Figure 1 attached hereto demonstrates a methodology for computing costs per minute of use of standalone/host switches and remote switches of different line sizes ranging from 700 lines to 3,000 lines, typical line sizes for rural ILEC switches.

The first entry is the fixed investment for switches. The CMRS Providers will accept current vendor quotations for switches comparable to those in use by the rural ILEC. The CMRS Providers will also accept FCC cost data (in 1999 dollars) from the 10th Report and Order in the USF proceedings. If the FCC switch cost data are used, the CMRS Providers believe that they should be updated to present value, assuming a 12 percent reduction in switch prices over the past six–seven years – based on data from the Turner Price Index.

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[1] The rate elements – transport and termination – are defined in 47 § CFR 51.701(c) and (d). For rural ILECs, transport most typically includes the costs of transport facilities from a meet point with a transit carrier where mobile-to-land traffic is received to the ILEC's end office switch serving the called party. Loop costs are specifically excluded from transport and termination rates. *First Report and Order*, ¶ 1057. Termination includes the usage-sensitive portion of end office switching. If a rural ILEC operates a stand-alone tandem that switches wireless traffic, the usage-sensitive portion of tandem switching costs are also included.

For switches serving less than 700 lines, current vendor price quotations should be used. Analysis of actual rural ILEC switch investments from the Rural Utility Service indicates that the FCC switch cost data overstate investments for switches with fewer than 700 lines.

The CMRS Providers will not agree that historical switch investment data may be used. The FCC's methodology is "forward-looking," which means that switch investment must be based on what a new switch would cost today, not what it cost in the past.

The administrative fill factor of 94% is taken from the FCC's 10th Report and Order.

Additional plant investment is included for land and buildings (200 sq. ft. for standalone/host switches and 100 sq. ft. for remote switches) based on typical rural ILEC switch footprints and floor space for "cageless" collocation arrangements. The CMRS Providers will also accept footprint estimates based upon current vendor information appropriately documented.

Building and land costs per square foot in Figure 1 are taken from the HAI Model, Release 5.0a, a publicly available cost model. The CMRS Providers will also accept current appraised values properly documented.

The CMRS Providers believe that capital costs for digital electronic switching should reflect a 10 year economic life and a 10 percent weighted average cost of capital. Expense factors are estimates developed by the CMRS Providers, which will accept other factors if properly documented and calculated. The common cost factor of 10.4% is the default input value of HAI 5.0a.

A key assumption or item of input is the usage-sensitive portion of switching costs. Based on recent FCC and State commission decisions, the CMRS Providers believes that little, if any, end office switching costs are sensitive to the volume of calling placed on the switches; rather, switch capacity exhaust and costs are driven by lines. The exception is the portion of end offices for interoffice trunk equipment, which is affected by interoffice traffic volume including mobile-to-land traffic.

Figure 1 uses factors ranging from three to ten percent, based on interoffice trunk investment and costs per line computed from HAI 5.0a default input values. Current vendor price quotations solely for trunk equipment do not appear to be available, but the CMRS Providers will consider alternative methods of approximating forward-looking trunk equipment investment, if properly documented.

The CMRS Providers will not accept the 70% usage-sensitive switching factor developed by the FCC for embedded cost studies. That factor is outdated, inconsistent with modern switching pricing practices and, in any event, applies only to switched access cost studies, which have no application to the development of forward-looking transport and termination rates.

Transport – Fiber Cable Costs Per Minute of Use

Figure 2 provides a methodology for computing the cost per minute for fiber cabling used for interoffice transport; *i.e.*, transport between the ILEC standalone/host switch and the meet point with the transit carrier, and transport among host and remote switches.

Costs for two cable sizes are computed – 12 fiber and 24 fiber cable. Cable is assumed to be buried, and installed costs per foot are from HAI 5.0a. The CMRS Providers will accept other

cable sizes, if properly documented. Costs per foot of other cable sizes may be taken from HAI 5.0a. Underground cable in conduits must be justified on the basis of terrain.

Since transport cable costs vary by cable route-mileage, costs are calculated for interoffice links of five, 20 and 40 route-miles to span typical interoffice distances. Distances from ILEC standalone/host switches to the transit carrier meet point typically are short (often five miles or less), whereas interoffice links may be longer and involve one or more links. The CMRS Providers will accept properly documented cable distances rounded up to 5, 20 or 40 route miles. Longer cable distances may be computed if appropriately documented.

Capital costs and network expenses are computed similarly to end office switching, with buried cable assumed to have a 25.9 year economic life (per HAI 5.0a) and using a 10 percent cost of capital. The CMRS Providers will accept rural ILEC cost studies using these assumptions. Other assumptions should be appropriately documented and justified.

An important factor in the determination of forward-looking economic costs of transport fiber cable is the extent of cable sharing – that is, the extent to which fibers in cables are used by both the transport system carrying mobile-to-land traffic and other "users." Rural ILECs frequently use portions of interoffice cable to connect loop concentrators to switches (part of loop costs and not transport and termination), to lease fibers to other carriers and for other purposes. FCC Rule 51.511 requires that total network element costs be attributed to total demand, or in this case total fibers in use. In the methodology shown in Figure 2, four fibers are attributed to the interoffice transport system and four fibers (in the 12 or 24 fiber cable) are attributed to other users (loop concentrators, other carriers, *etc.*). This is consistent with a recent decision by the Missouri Public Service Commission. (Missouri PSC Order in Case No. TO-2006-0147, 03/23/06.) The CMRS Providers will accept a 50%/50% sharing ratio in any rural ILEC cost study without the need of documentation. The CMRS Providers will accept other sharing ratios properly documented.

Another important factor is the utilization level of the interoffice transport system, or the number of DS0 equivalents of traffic over an interoffice link. The greater the utilization, the lower the cost per minute. The CMRS Providers' methodology computes costs at three utilization levels – low utilization of 3 DS1s of traffic, which equates to only four percent of an OC3 transport system's capacity, modest utilization of 1 DS3 (33% utilization) and higher utilization of 2 DS3s (the equivalent of 1,344 voice grade trunks or DS0 special access circuits). In addition, a voice trunk (DS0 equivalent) is assumed to carry 120,533 annual minutes of use per HAI 5.0a. This reflects 30 percent utilization of 75% of the maximum capacity of a trunk. The CMRS Providers will accept a rural ILEC cost study that utilizes one of these three levels – with appropriate documentation. The CMRS Providers will also accept other utilization levels properly documented. Likewise, the CMRS Providers will accept other DS0 equivalent annual minutes of use, if properly documented.

At the end of Figure 2, transport fiber cable costs are computed for two hypothetical scenarios. In the first, mobile-to-land traffic is assumed to travel five miles from the meet point to the ILEC's host switch, over a link with 33% utilization of the transport system's bandwidth. Then, the traffic travels 20 miles to a remote, over a link with only four percent utilization. This "high cost" scenario results in costs per minute ranging from $3/10^{th}$ to $4/10^{th}$ cent per minute.[2] Scenario

[2] Note that a substantial portion of mobile-to-land traffic may terminate at the host switch, because the host is likely to have a large proportion of the ILECs lines and traffic. In this case, the second link would not be required, and its costs would not be attributable to mobile-to-land traffic.

2 assumes two links of five and 20 miles, with utilization levels of 66 and 33 percent, respectively. This lower cost, more efficient scenario results in costs per minute ranging from $4/100^{th}$ to $5/100^{th}$ cent. Based on these scenarios, the CMRS Providers would expect transport fiber cable costs to fall in the range of $0.0004 to $0.0044 per minute. Transport cable costs above the upper end of the range likely would not reflect cable sharing or would reflect very low utilization levels of transport system bandwidth or minutes of use per trunk. Cost above the upper end would require proper documentation.

Transport – Termination Equipment Costs Per Minute of Use

Figure 3 presents a methodology for the calculation of termination equipment costs, assuming an OC3 interoffice transport system, the equivalent of 2016 DS0's. The CMRS Providers believe that an OC3 transport system will generally be sufficient for the forward-looking needs of rural ILECs. The CMRS Providers are willing to consider the need for larger transport systems, with proper documentation.

The factors used in this methodology are the same as for switching and cable costs. Termination equipment investments are from the HAI 5.0a model. The CMRS Providers are willing to consider other factors and investments properly documented.

At the end of Figure 3, termination equipment costs are computed for two scenarios. Each assumes that mobile-to-land traffic passes through three terminations – one at the host switch interfacing to the transit carrier, another at the host switch for host-remote transport and the third at the remote switch. Since a substantial portion of mobile-to-land traffic would be destined to subscribers served by the host switch (or standalone switches) only one termination would be required in many cases. The scenarios reflect two interoffice links to recognize those situations in which more than one host-remote link is traversed to reach the remote end office.

Based on these scenarios, the CMRS Providers would expect termination equipment costs to fall in the range of $0.0006 - $0.0040 per minute. Costs above the upper end would require proper documentation.

Other Transport and Termination Costs

In addition to end office switching and transport costs, ILEC costs may include tandem switching and ISUP signaling, or other costs, although unlikely. Rural ILECs typically do not provide tandem switching; therefore, this cost would not apply except in unusual circumstances. Tandem switching costs per minute tend to be very small. ISUP signaling costs are included in the HAI 5.0a cost model; these costs also should be relatively minor.

Transport and Termination Forward-Looking Economic Cost Benchmark **Figure 1**

End Office Switching

	Standalone / Host			Remote			
	700 Lines	1,500 Lines	3,000 Lines	700 Lines	1,000 Lines	1,500 Lines	Source
Switching							
Fixed investment (1999 dollars)	$ 486,700	$ 486,700	$ 486,700	$ 161,800	$ 161,800	$ 161,800	FCC 10th Report and Order, USF Proceedings, ¶298.
Lines in service	700	1,500	3,000	700	1,000	1,500	
Switch line administrative fill	94%	94%	94%	94%	94%	94%	FCC 10th Report and Order
Lines of capacity	745	1,596	3,191	745	1,064	1,596	
Per line investment (1999 dollars)	$ 87	$ 87	$ 87	$ 87	$ 87	$ 87	FCC 10th Report and Order
Total switch investment (1999 dollars)	$ 551,487	$ 625,530	$ 764,360	$ 226,587	$ 254,353	$ 300,630	
Switch cost decrease	12%	12%	12%	12%	12%	12%	CA Turner Price Index per "Supplemental Consolidated Direct and Rebuttal Tesimony," Talmage O. Cox, III, Tennessee Regulatory Authority, Docket 03-00585, 07/27/04.
Total switch investment (2006 dollars)	$ 485,309	$ 550,466	$ 672,636	$ 199,397	$ 223,831	$ 264,554	
Land & buildings							
Building square feet	200	200	200	100	100	100	4 bays / standalone host & 2 bays / remote X 50 sq. ft. / bay for cageless collocation space. Per Missouri PSC Arbitration Order in Case No. TO-2006-0147 (03/23/06)
Building investment / sq. ft	$ 75	$ 85	$ 85	$ 75	$ 75	$ 85	"HAI Model Release 5.0a Inputs Portfolio," Sec. 4.2.5
Building investment	$ 15,000	$ 17,000	$ 17,000	$ 7,500	$ 7,500	$ 6,500	
Land investment / sq. ft	$ 5.00	$ 7.50	$ 7.50	$ 5.00	$ 5.00	$ 7.50	"HAI Model Release 5.0a Inputs Portfolio," Sec. 4.2.6.
Land investment	$ 2,000	$ 3,000	$ 3,000	$ 1,000	$ 1,000	$ 1,500	Land sq. ft. = 2 X building sq. ft. "HAI Model Release 5.0a Inputs Portfolio," Section 4.2.1.
Capital cost factors							
End office switching	16.5%	16.5%	16.5%	16.5%	16.5%	16.5%	10 year economic life, 10% weighted average cost of capital
Buildings	12.4%	12.4%	12.4%	12.4%	12.4%	12.4%	46.9 year economic life. HAI 5.0a Inputs Portfolio, Sec. 5.2
Land	15.4%	15.4%	15.4%	15.4%	15.4%	15.4%	
Network expense factors							
End office switching	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	
Buildings	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	
Land	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Capital costs & network expenses							
End office switching	$ 109,194	$ 123,855	$ 151,343	$ 44,864	$ 50,362	$ 56,525	
Buildings	$ 4,110	$ 4,658	$ 4,658	$ 2,055	$ 2,055	$ 2,329	
Land	$ 308	$ 462	$ 462	$ 154	$ 154	$ 231	
Total	$ 113,612	$ 128,975	$ 156,463	$ 47,073	$ 52,571	$ 82,085	
Support expense factor	12%	12%	12%	12%	12%	12%	
Total annual costs before common costs	$ 127,246	$ 144,452	$ 175,239	$ 52,722	$ 58,879	$ 69,535	
Common cost factor	10.4%	10.4%	10.4%	10.4%	10.4%	10.4%	"HAI Model Release 5.0a Inputs Portfolio," Sec. 5.5.2.
Total annual costs, including common	$ 140,480	$ 159,475	$ 193,464	$ 58,205	$ 65,003	$ 76,766	
Usage-sensitive portion of switching costs	3%	5%	8%	6%	8%	10%	Calculated as the percentage of switch interoffice trunk investment / total switch investment.
Usage-sensitive annual costs	$ 3,715	$ 7,967	$ 15,819	$ 3,746	$ 5,324	$ 7,980	
Usage-sensitive annual costs / line	$ 5.31	$ 5.31	$ 5.27	$ 5.35	$ 5.32	$ 5.32	
Annual switched minutes of use / line	12,000	12,000	12,000	12,000	12,000	12,000	"A Survey of Unbundled Network Element Prices in the United States," PSC of WV, 03/06, footnote 14.
End office switching cost / minute of use	$ 0.0004	$ 0.0004	$ 0.0004	$ 0.0004	$ 0.0004	$ 0.0004	
Interoffice trunk investment / line	$ 18.33	$ 18.33	$ 18.33	$ 18.33	$ 18.33	$ 18.33	HAI 5.0a $18.33 = $100 investment / trunk X 1.1 installation factor / 6 lines / trunk. Inputs Portfolio, Secs. 4.5.4, 4.1.8.
Total end office switching investment / line	$ 693.30	$ 366.98	$ 224.21	$ 284.85	$ 223.83	$ 176.37	
Usage-sensitive % of end office switching	3%	5%	8%	6%	8%	10%	

Notes:

1. The minimum line size for use with the FCC switch cost data is 700 lines. Analysis of actual rural ILEC switch investments from the Rural Utility Service indicate that the FCC switch cost data overstate investments for switches with fewer than 700 lines.

Transport and Termination Forward-Looking Economic Cost Benchmark **Figure 2**

Transport - Fiber Cable

	12 Fiber Cable			24 Fiber Cable			
Interoffice link route mileage:	5 miles	20 miles	40 miles	5 miles	20 miles	40 miles	Source
Interoffice link distance (route-feet)	26,400	105,600	211,200	26,400	105,600	211,200	
Buried cable cost / foot installed	$ 2.90	$ 2.90	$ 2.90	$ 3.50	$ 3.50	$ 3.50	"HAI Model Release 5.0a Inputs Portfolio," Sec. 4.4.13.
Interoffice buried cable investment	$ 76,560	$ 306,240	$ 612,480	$ 92,400	$ 369,600	$ 739,200	
Capital cost factor	13%	13%	13%	13%	13%	13%	25.9 year economic life per HAI 5.0a Inputs Portfolio, Sec. 5.2.
Network expense factor	3%	3%	3%	3%	3%	3%	
Capital costs & network expenses	$ 12,326	$ 49,305	$ 98,609	$ 14,878	$ 59,506	$ 119,011	
Support expense factor	12%	12%	12%	12%	12%	12%	
Total annual costs before common costs	$ 13,805	$ 55,221	$ 110,442	$ 16,662	$ 66,646	$ 133,293	
Common cost factor	10.4%	10.4%	10.4%	10.4%	10.4%	10.4%	"HAI Model Release 5.0a Inputs Portfolio," Sec. 5.5.2.
Total annual costs, including common	$ 15,241	$ 60,964	$ 121,928	$ 18,394	$ 73,577	$ 147,155	
Total demand - fibers							
Interoffice transport system	4	4	4	4	4	4	"HAI Model Release 5.0a Inputs Portfolio," Sec. 4.4.14.
Other uses (loop concentrators, leased fibers, etc.)	4	4	4	4	4	4	Based on 50%/50% sharing of interoffice cable costs. Missouri PSC Order Arbitration Order in Case No. TO-2006-0147 (03/23/06).
Total	8	8	8	8	8	8	
Annual costs / fiber in service	$ 1,905	$ 7,621	$ 15,241	$ 2,299	$ 9,197	$ 18,394	
Annual costs attributable to IO transport system	$ 7,621	$ 30,482	$ 60,964	$ 9,197	$ 36,789	$ 73,577	
Total demand on IO transport system link							
Nominal capacity - OC3 transport system - DS0 equivalents	2,016	2,016	2,016	2,016	2,016	2,016	3 DS3 / OC3 X 28 DS1 / DS3 X 24 DS0 / DS1
Alternative utilization levels - DS0 equivalents							
3 DS1 - 4% utilization	72	72	72	72	72	72	
1 DS3 - 33% utilization	672	672	672	672	672	672	
2 DS3 - 66% utilization	1,344	1,344	1,344	1,344	1,344	1,344	
Annual costs / DS0 equivalent							
4% utilization	$ 105.84	$ 423.36	$ 846.73	$ 127.74	$ 510.95	$ 1,021.91	
33% utilization	$ 11.34	$ 45.36	$ 90.72	$ 13.69	$ 54.75	$ 109.49	
66% utilization	$ 5.67	$ 22.68	$ 45.36	$ 6.84	$ 27.37	$ 54.75	
Annual minutes of use / trunk	120,533	120,533	120,533	120,533	120,533	120,533	HAI 5.0a default value based on 30% average utilization of the maximum capacity of a trunk. Maximum capacity is 75% of nominal capacity (36 BH CCS)
Transport - fiber cable cost / MOU-link							
4% utilization	$ 0.00088	$ 0.00351	$ 0.00702	$ 0.00106	$ 0.00424	$ 0.00848	
33% utilization	$ 0.00009	$ 0.00038	$ 0.00075	$ 0.00011	$ 0.00045	$ 0.00091	
66% utilization	$ 0.00005	$ 0.00019	$ 0.00038	$ 0.00006	$ 0.00023	$ 0.00045	
Transport - fiber cable cost / MOU							
Scenario 1							
Link 1 - 5 miles from host to meet point - 33% utilization	$ 0.00009			$ 0.00011			
Link 2 - 20 miles from host to remote - 4% utilization		$ 0.00351			$ 0.00424		
Total - Scenario 1			$ 0.00361			$ 0.00435	
Scenario 2							
Link 1 - 5 miles from host to meet point - 66% utilization	$ 0.00005			$ 0.00006			
Link 2 - 20 miles from host to remote - 33% utilization		$ 0.00038			$ 0.00045		
Total - Scenario 2			$ 0.00042			$ 0.00051	

Transport and Termination Forward-Looking Economic Cost Benchmark **Figure 3**

Transport - Termination Equipment

DS0 equivalents per node:	3 DS1 - 4% utiliation	1 DS3 - 33% utilization	2 DS3 - 66% utilization	Source
Termination equipment				
OC3 / DS1 terminal multipler	$ 20,500	$ 22,000	$ 24,000	"HAI Model Release 5.0a Inputs Portfolio," Sec. 4.4.1.
Optical distribution panel	$ 1,000	$ 1,000	$ 1,000	" , Sec. 4.4.4.
Pigtails	$ 1,440	$ 1,440	$ 1,440	" , Sec. 4.4.3.
Engineering & installation - terminal mux	$ 1,760	$ 1,760	$ 1,760	" , Sec. 4.4.5, 4.4.6.
Digital cross-connect / DS3	$ 30,000	$ 30,000	$ 60,000	" , Sec. 4.4.11.
Total	$ 54,700	$ 56,200	$ 88,200	
Power plant loading	9%	9%	9%	
Total termination equipment investment	$ 59,623	$ 61,258	$ 96,138	
Capital cost factor	16.5%	16.5%	16.5%	10 year economic life, 10% cost of capital
Network expense factor	6.0%	6.0%	6.0%	
Capital costs & network expenses	$ 13,415	$ 13,783	$ 21,631	
Support expense factor	12%	12%	12%	
Total annual costs before common costs	$ 15,025	$ 15,437	$ 24,227	
Common cost factor	10.4%	10.4%	10.4%	"HAI Model Release 5.0a Inputs Portfolio," Sec. 5.5.2.
Total annual costs, including common	$ 16,588	$ 17,042	$ 26,746	
Total demand - DS0 equivalents	72	672	1,344	
Annual costs / DS0 equivalent	$ 230.38	$ 25.36	$ 19.90	
Annual minutes of use / trunk	120,533	120,533	120,533	HAI 5.0a defaul value based on 30% average utilization of the maximum capacity of a trunk. Maximum capacity is 75% of nominal capacity (36 BH CCS)
Transport - termination equipment cost / MOU-termination	$ 0.0019	$ 0.0002	$ 0.0002	
Transport - termination equipment cost / MOU				
Scenario 1				
Host - two terminations - 33% utilization on meet point link & 4% utilization on HR link	$ 0.0019	$ 0.0002		
Remote - one termination - 4% utilization	$ 0.0019			
Total - Scenario 1			$ 0.0040	
Scenario 2				
Host - two terminations - 66% utilization on meet point link & 33% utilization on HR link		$ 0.0002	$ 0.0002	
Remote - one termination - 33% utilization		$ 0.0002		
Total - Scenario 2			$ 0.0006	

TESTIMONY OF W. CRAIG CONWELL

EXHIBIT WCC-6

RLEC Forward-Looking Economic Cost of Transport and Termination – One Switch Company

Local Switching Cost

Cost/minute – standalone = (($486,700 + Lines X $87/line) X (1 – 8% price decline)) / Lines X ACF X % usage sensitive
/ Annual switched minutes/line

Transport – Fiber Cable (assuming OC3 transport system)

Cost/minute = (Miles of IO cable X 5,280 ft./mile X $4.67/ft. X ACF X % fibers for IO transport)
/ (Transport system capacity (DS0 equivalents) X % utilization X Annual minutes/trunk)

Transport – Transmission Equipment (assuming OC3 transport system)

Cost/minute = Average terminations X $96,138 in OC3 ADM & supporting plant X ACF
/ (Transport system capacity (DS0 equivalents) X % utilization X Annual minutes/trunk)

Sources:
1. Switch investment – FCC switch cost data from USF Inputs Order; 8% switch reproduction cost decline from 1999 to 2007 per AUS Telephone Price Index.
2. Fiber cable installed cost/ft. – HAI 5.0a Inputs Portfolio (default value).
3. Transmission equipment (per termination) – HAI 5.0a Inputs Portfolio (default values) for OC3 add/drop multiplexer, digital cross-connect system, *etc.*

TESTIMONY OF W. CRAIG CONWELL

EXHIBIT WCC-7

PUBLIC VERSION

No Attachments

BEFORE THE TENNESSEE REGULATORY AUTHORITY
NASHVILLE, TENNESSEE

May 15, 2007

TENNESSEE RURAL INDEPENDENT COALITION PETITION FOR SUSPENSION AND MODIFICATION PURSUANT TO 47 U.S.C. 251(f)(2)

DOCKET NO. 06-00228

PRE-FILED TESTIMONY OF DR. CHRISTOPHER C. KLEIN ON BEHALF OF CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS AND THE CMRS PROVIDERS

Q. Please state your name and your current position.

A. My name is Christopher C. Klein and I am an Associate Professor in the Economics and Finance Department at Middle Tennessee State University (MTSU) in Murfreesboro, Tennessee.

Q. What is your educational background?

A. I received a B. A. in Economics from the University of Alabama in 1976 and I received a Ph. D. in Economics from the University of North Carolina at Chapel Hill in 1980.

Q. What is your professional experience involving regulated industries?

A. I was employed as an Economist in the Antitrust Division of the Bureau of Economics at the Federal Trade Commission (FTC) in Washington, D.C., for six years starting in 1980. In 1986, I was hired as the first Economist for the Tennessee Public Service Commission (TPSC). Although my title changed over the years, I functioned as the Chief Economist for the TPSC and, after 1996, the Tennessee Regulatory Authority (TRA), until August of 2002, when I assumed my current position with MTSU.

Q. What were your duties at the FTC?

A. I performed the economic analysis in antitrust investigations involving more than 20 industries and contributed to staff reports on mergers in the petroleum industry, competition in grocery retailing, and the economics of predatory or sham litigation.

Q. What was your primary responsibility at the TPSC?

A. I was an expert witness for the staff of the TPSC in rate cases and other similar proceedings involving telecommunications, natural gas, electric and water utilities and motor carriers. I testified in 36 dockets before the TPSC on the issues of cost of capital, rate design, and competitive effects. I also filed testimony before the Federal Communications Commission (FCC).

Q. How did your responsibilities change when the TRA supplanted the TPSC?

A. I oversaw the Utility Rate Division and then the Economic Analysis Division. The TRA staff no longer testified in proceedings before the agency, but provided analysis and advice to the TRA Directors. I was responsible for all such advice and analysis provided to the Directors by these Divisions, either individually or in concert with other TRA staff, in all proceedings that came before the agency for resolution. These proceedings included rate cases and tariff filings by public utilities, as well as those associated with the implementation of the federal Telecommunications Act of 1996.

Q. Were you a member of any regulatory committees or boards while you worked for the TPSC and the TRA?

A. Yes. I was a member of the National Association of Regulatory Utility Commissioners (NARUC) Staff Subcommittee on Gas. I was a member of, and Chaired, the Research Advisory Committee to the Board of Directors of the National Regulatory Research

Institute (NRRI). I also served on the State Staff of the FCC's Federal-State Joint Board in CC Docket No.80-286 (the "Separations" Joint Board) and as a Group Leader on the NARUC Staff Subcommittee on Accounts Multi-state Audit Team that produced the 1988 Report on Bell Communications Research.

Q. What is your primary responsibility at MTSU?

A. I teach classes in the general area of applied microeconomics, including Principles of Microeconomics, Managerial Economics, Business and Government, and Econometrics, as well as undertaking scholarly research and participating in various university committees.

Q. Have you taught at any other universities?

A. I taught classes in the Economics of Regulation and in Antitrust Economics in the Economics Department at Vanderbilt University on an adjunct basis for several years.

Q. Are you a member of any professional organizations?

A. I am a member of the American Economic Association and its Transportation and Public Utilities Group, the Southern Economic Association, the Western Economic Association, the Industrial Organization Society, and Alpha Pi Mu, the National Industrial Engineering Honor Society.

Q. Have you published articles in professional or academic journals and presented papers at professional meetings?

A. More than 30 of my articles have appeared in professional or academic journals and I have made more than 50 presentations at professional meetings.

Q. Have you testified before any other governmental bodies in Tennessee?

A. Yes. I have testified before various committees of the Tennessee General Assembly on regulatory issues, especially telecommunications issues and competition in the telecommunications industry, as well as before the Tennessee Advisory Commission on Intergovernmental Relations.

PURPOSE OF TESTIMONY

Q. **What is the purpose of your testimony?**

A. I will respond to the Coalition's request for suspension or modification under Section 251(f)(2) of the Telecommunications Act of 1996 (the Act) and to the testimony Mr. Jeffrey W. Reynolds, Mr. Emmanuel Starulakis, and Mr. Steven E. Watkins filed on behalf of various members of the Tennessee Rural Independent Coalition (the Coalition) on April 27, 2007. Each of these witnesses contends that the TRA should relieve the members of the Coalition of their obligation under Sec. 251(b)5 of the Act to conduct a TELRIC cost study to set a rate for transport and termination of traffic exchanged with the CMRS Providers (Cellco Partnership d/b/a Verizon Wireless; New Cingular Wireless PCS, LLC; Sprint Spectrum L.P. d/b/a Sprint PCS; and T-Mobile USA, Inc.). The Act provides for such a possibility in Sec. 251(f)(2):

The State commission shall grant such petition to the extent that, and for such duration as, the State commission determines that such suspension or modification –

(A) is necessary

(i) to avoid a significant adverse impact on users of telecommunications services generally;

(ii) to avoid imposing a requirement that is unduly economically burdensome; or

(iii) to avoid imposing a requirement that is technically infeasible; and

(B) is consistent with the public interest, convenience, and necessity.

Technical infeasibility is not an issue. The Coalition's witnesses claim its Petition should be granted under parts (A) (i) and (ii) and part (B). I will address the specifics under each of these areas below, but first I point out a basic misunderstanding on the part of the Coalition's witnesses concerning the purpose of using a TELRIC cost study to set rates for the exchange of traffic with CMRS providers.

Q. How do the Coalition's witnesses misunderstand the purpose of the rate setting process for exchange of traffic with CMRS providers?

A. Two Coalition witnesses suggest that the purpose of the cost study is merely to serve the interests of the CMRS Providers (Reynolds, p. 11; Starulakis, p. 12). In fact, the purpose is to provide consumers with access to competitive services and, specifically in this case, to facilitate the exchange of traffic between consumers using wireless and landline telecommunication services, as a result of a change in national policy set out in the Act. The preamble of the Act states its purpose to:

> …promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunications consumers and encourage the rapid deployment of new telecommunications technologies.

The FCC sought to implement this purpose with the TELRIC methodology:

> The 1996 Act encourages competition by removing barriers to entry and providing an opportunity for potential new entrants to purchase unbundled LEC network elements to compete efficiently to provide local exchange services. We

> believe that the prices that potential entrants pay for these elements should reflect forward-looking economic costs in order to encourage efficient levels of investment and entry. *In Re: Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, 11 FCC Record 15499, ¶ 672 (1996).

Further, these sentiments are consistent with the Tennessee General Assembly's statement of telecommunications policy:

> The general assembly declares that the policy of this state is to foster the development of an efficient, technologically advanced, statewide system of telecommunications services by permitting competition in all telecommunications services markets. Tenn. Code Ann. § 65-2-123.

Moreover, the TRA has recognized that *customers* in rural areas are entitled to the same range of choices as are customers in the more urban areas of the state: "The panel recognized that rural customers are entitled to the same level of services and choices that are available in all parts of Tennessee and the nation…" *Order Denying Amended Petition and Establishing Dates for Implementation of Local Number Portability* (Sept. 6, 2005) Dkt. No. 03-00633, p. 18 (*LNP Order*).

Mr. Watkins (p. 4) spends a good deal of space discussing the detrimental effects of setting the rate "too low" for this exchange of traffic, but ignores several aspects of the rate-setting process. First, the TRA has ordered the use of forward-looking costs, specifically TELRIC, for determining the rate for the exchange of traffic between the Coalition members and the CMRS providers (*Order of Arbitration Award*, Docket No. 03-00585, Jan. 12, 2006, p. 40). A TELRIC rate will provide compensation to cover each Coalition member's cost of providing transport and termination, and thus should not

cause Coalition members to forgo investments in providing advanced services or maintaining the quality of their networks. On the other hand, including inappropriate costs in the rate will discourage providers of wireless services from investing in service improvements in rural areas. Non-TELRIC rates will not encourage competition or the development of wireless services in rural Tennessee. This in effect denies comparable services to customers in these rural areas, services that are available in other areas of the state, and may frustrate economic development in rural areas which must compete with urban areas for new businesses and the jobs they create.

Q. Did you participate in the process by which the TRA determined "permanent prices" for unbundled network elements for BellSouth?

A. Yes. I functioned as the Chief Economist for the TRA at that time and was intimately involved with the agency's review and analysis of the issues. TRA Docket No. 97-01262, Petition of Bellsouth Telecommunications, Inc. to Convene a Contested Case to Establish "Permanent Prices" for Interconnection and Unbundled Network Elements, consisted of two phases involving ten days of hearings and innumerable filings. Resolution of all the issues required three substantial interim orders followed by a Final Order.

Q. How does that proceeding compare to the setting of a rate for transport and termination of traffic exchanged between Coalition members and CMRS providers that is at issue here and in Docket No. 03-00585?

A. The use of a TELRIC cost methodology is almost the only common issue. The BellSouth proceeding set rates for well over 100 unbundled network elements and combinations, including various types of loops and loop combinations, collocation, vertical features,

dark fiber, access to poles, ducts, and conduits, and many others that are not at issue here. Some elements were priced separately for three different geographic zones. The rate to be set between the Coalition members and the CMRS providers consists of basically one combination of network elements. Obviously, the task at hand, setting a rate for transport and termination of traffic, is far less complex and time-consuming than setting individual rates for over 100 elements and combinations of elements.

Q. Is it misleading and unreasonable to equate the process of setting rates for unbundled network elements and combinations of elements to the process of establishing a rate for transport and termination?

A. Yes.

Q. How do the Coalition's witnesses address the issue of whether a TELRIC Cost Study is unduly economically burdensome?

A. Mr. Reynolds and Mr. Starulakis refer to the "significant" costs that they claim are associated with performing a TELRIC study, roughly $33,000 to $36,000 per company (Starulakis, p. 10), and conclude that these costs are an unnecessary burden on the companies in the context of their position that TELRIC studies are "unnecessary" (Reynolds, p. 9-10; Starulakis, p. 10).

Q. Do you agree with this conclusion?

A. No. The Act requires a showing of "a requirement that is unduly economically burdensome" and this cannot be determined by mere reference to cost estimates out of context of the financial resources of the companies or a quantification of the effect of such costs on consumer rates or prices or availability of services.

Q. Has the TRA provided any guidance on what constitutes significant adverse economic impact on users of telecommunications services or an undue economic burden under 251(f)(2)?

A. Yes. In its *LNP Order*, the Authority addressed the Coalition's request for suspension, under 251(f)(2), of wireline to wireless number portability obligations. The TRA found that the costs associated with LNP implementation would not cause users of telecommunications services to "suffer significant adverse economic impact" or that the LNP requirement was "unduly economically burdensome" even though a customer surcharge "of between 4 cents ($0.04) and 26 cents ($0.26) a month per access line for five years" would result. The TRA concluded that, "This range is extremely reasonable." (*LNP Order*, p. 17)

Q. Can you compare the range from the LNP Order to the cost estimates that the Coalition witnesses claim for performing a TELRIC study for transport and termination of CMRS traffic?

A. Yes. I do not necessarily believe that the cost estimates reported by the Coalition's witnesses are accurate, but I take them as given for the sake of analysis. Using the $36,000 maximum cost of a TELRIC study per company proposed by Mr. Starulakis, I first divide it by the number of working loops for each company in his Table 1 (Starulakis, p. 5) and then divide the result by 60 months. The resulting simple average of the cost estimate per line per month over a five-year period is less than $0.26 for every company except Yorkville. Performing the same calculation using the estimated TELRIC study costs reported in Mr. Reynolds' Confidential Exhibit and the number of working loops for those companies as reported in Mr. Starulakis's source (USAC, High

Cost Loop Support by State and Study Area, Appendix HC-05) also yields simple average cost per line per month below $0.26. Further, amortizing the cost per line over five years for both sets of companies results in a monthly amount of less that $0.26 for every company except Yorkville (even at interest rates as high as 15%). The calculation may overstate the effect for Yorkville, as it has been acquired recently by West Kentucky Rural Telephone Cooperative. If West Kentucky's number of loops is added to Yorkville's, the resulting cost figures, either simple average or amortized, fall below $0.26 per line per month.

Q. Are the costs of the TELRIC study itself the appropriate costs to consider in determining economic burden?

A. No. The TELRIC study cost alone should not be used to determine the existence of an economic burden. The appropriate comparison is the cost of a TELRIC study less the cost of the method used to set a rate in the event that the Coalition's petition is granted in the context of a company's overall size and financial status. In other words, the relevant cost is the difference between the cost of a TELRIC study and the cost of the alternative method of rate setting. No cost estimates have been provided for the alternative, but these costs certainly will be greater than zero. Thus, the cost estimates provided by the Coalition witnesses not only view these costs out of context, but overstate the expense that a TELRIC study would add to the rate setting procedure.

Q. If a TELRIC study is performed, will the cost have to be recovered by increasing rates or prices for services used by the Coalition members' customers?

A. There is no reason to think so, based on the evidence presented by the Coalition's witnesses. In fact, the Coalition's witnesses do not argue that the companies cannot

afford the studies, but merely that there are better uses for the funds (Reynolds, p. 11; Starulakis, p. 11-12). Of course we have no assurance that the funds not spent on a TELRIC study will be diverted to improving services rather than to stockholders' pockets (or refunded to members in the case of cooperatives). Moreover, the Coalition witnesses do not argue that the Coalition members are suffering now, either under-earning or unable to acquire financing, even though some of them have received no payments and others only partial payment for transport and termination from the CMRS Providers for several years (See the March 28, 2007, *Response* of the Coalition members and the April 12, 2007, *Response* of the CMRS Providers to the Tennessee Regulatory Authority's *Request*). When a rate is finally set, the Coalition members will be receivers of net reciprocal compensation payments causing their earnings to increase and their rates-of-return to rise. If they are not in distress now, they certainly will not be after a rate is set.

Q. How do the Coalition witnesses address the issues of whether a TELRIC study will cause a significant adverse economic impact on users of telecommunications services generally and whether the suspension of the TELRIC requirement is consistent with the public interest, convenience, and necessity?

A. Mr. Reynolds (pp. 5-8) and Mr. Starulakis (pp. 6-9) rely on various statements by the FCC in refraining from "imposing" TELRIC requirements on rural LECs in the contexts of determining Universal Service costs and unbundling network elements. These tasks, however, involve the determination of different costs in different contexts than the transport and termination costs for exchange of traffic that must be ascertained here. The more serious fault, however, is that no Tennessee-specific facts or data – and no *company-specific* facts or data, for that matter - are offered to support their conclusion.

Q. Why is the lack of Tennessee and company-specific facts or data important?

A. The TRA has held (*LNP Order*, p. 17) that "in the absence of data to support specific contentions, conclusions with respect to public interest and sound policy are, at best, speculative." That is, one needs more than mere policy statements or references to statements by the FCC taken out of context to support a public interest claim. Mr. Reynolds and Mr. Starulakis offer none.

Q. Does Mr. Watkins address these issues in his testimony for the Coalition?

A. Mr. Watkins purports to address "the impact on end users as it relates to the request for suspension" under 251(f)(2).

Q. Does Mr. Watkins produce Tennessee-specific facts or data to support his position?

A. No. For this reason, his claims suffer from the same ailment as those of the Coalition's other witnesses.

Q. What is the thrust of Mr. Watkins's testimony?

A. His main argument appears to be that a TELRIC cost study will produce rates that are "too low" in some sense, causing rates for other services to increase and leaving the overall rate structure "distorted" (Watkins, p. 10). There are several problems with his argument. First, no rate has been set yet – and no TELRIC cost determination has been made – so basing his conclusion on a phantom rate is speculative. Second, it is unlikely that a TELRIC rate will cause the Coalition's members to realize inadequate earnings that would trigger a rate case leading to increases in rates for other services. As I have previously pointed out, the Coalition members do not claim financial distress now and they can expect their financial status to improve once a rate is set. Thirdly, Mr. Watkins has testified before this very panel that TELRIC costs may actually exceed cost estimates

that he has produced using alternative methods. For example, at the hearing in Docket No. 03-00585 (August 11, 2004, Transcript Vol. IX, pp. 20-21), Mr. Watkins testified:

> Q.: …you're telling the panel that the rates you have proposed in Exhibit E are lower than the rates that would be produced by the application of the FCC's forward-looking pricing methodology. Am I understanding that correctly?
>
> A.: That is likely the case, yes.

By Mr. Watkins sworn testimony before this panel, TELRIC does not always produce a rate that is "too low" in Mr. Watkins's sense of the term. Without specific Tennessee data and analysis, there is no way to determine if Mr. Watkins's speculations apply in the case of the Coalition members. Finally, he ignores the Arbitrators' decision in Docket No. 03-00585 that rates for the exchange of traffic between Coalition members and CMRS providers, "should be based on forward-looking costs. Specifically, the rates should be set using the TELRIC pricing methodology." (*Order of Arbitration Award*, Jan. 12, 2006, p. 40) As such, the only way a rate would be "too low" is if it were below TELRIC. Mr. Watkins also ignores the potential detrimental effect of including "lost contribution" or embedded costs in the rate. As the FCC has found, in a passage quoted by several witnesses for the Coalition, "the inclusion of an element for the recovery of lost contribution may lead to significant distortions in the local exchange markets." (*First Report and Order*, In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996; and Interconnection between Local Exchange Carriers and Commercial Radio Service Providers, 11 FCC Record 15499, 16013 ¶1059 (1996); see also Reynolds, p. 6; Starulakis, p. 9; and Watkins, p. 9) The Coalition members may very well suffer a "loss of contribution" as transport and termination rates

for CMRS traffic fall below access rates, but as should now be obvious, this is very unlikely to cause financial distress to the Coalition members, and cannot justify distorting the rate for transport and termination upward above the appropriate forward-looking TELRIC rate. The TRA has also observed that, "Embedded costs...are not permissible in the calculation of rates based on forward-looking costs." (*Order of Arbitration Award*, p. 40) Any such "loss of contribution," if it exists, is the result of a change in national telecommunications policy, a policy embraced by the Tennessee General Assembly, intended to confer the benefits of competition – such as lower rates, more choice, a wider range of more advanced services – on the public at large, and not to any action by the CMRS Providers.

Q. What are the dangers in setting a transport and termination rate for CMRS traffic that includes "lost contribution" or embedded costs over and above TELRIC?

A. The general effect will be to create isolated rural enclaves that are insulated from the pressures of competition and also insulated from the incentives to offer advanced services, improve service quality, and make available a full range of services. If the areas served by the Coalition members are to be full participants in the availability of services throughout Tennessee, then the best policy is to set the rate at the appropriate (TELRIC) level. To do otherwise will discriminate against these areas in the range and quality of services available, retarding economic development, job growth, and even the continued viability of some rural communities.

Q. What do you conclude?

A. I conclude that the TRA should deny the Coalition's Petition for failure to adequately demonstrate the required elements under section 251(f)(2) of the Act. No adverse impact

on users of telecommunications services generally or undue economic burden has been shown. Further, not only does the requested suspension fail to serve the public interest, but it may actively harm that interest, especially in the rural areas served by the Coalition members.

Q. Does this conclude your testimony at this time?

A. Yes.

OATH

STATE OF TENNESSEE)
COUNTY OF DAVIDSON)

I, Dr. Christopher C. Klein, being first duly sworn, make oath that my Pre-filed Testimony, and any exhibits attached thereto, submitted to the Tennessee Regulatory Authority in TRA Docket No. 06-00228 and the statements contained therein are true, accurate and correct to the best of my knowledge, information and belief.

Dr. Christopher C. Klein

Sworn to and subscribed before me this 15th day of May, 2007.

Rachel E. Burnett
Notary Public

My Commission Expires: Sept. 20, 2008