Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 200554

In the Matter of	)	GN Docket No. 09-51
	)	CC Docket Nos. 01-92, 96-45
Connect America Fund	)	WC Docket Nos. 10-90, 07-135, 05-337,
	)	03-109
	)	WT Docket No. 10-208

COMMENTS

of the

NATIONAL EXCHANGE CARRIER ASSOCIATION, Inc.;
NTCA – THE RURAL BROADBAND ASSOCIATION;
USTELECOM;
EASTERN RURAL TELECOM ASSOCIATION; and
WESTERN TELECOMMUNICATIONS ALLIANCE

July 25, 2013

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I. INTRODUCTION AND SUMMARY

By Public Notice,[1] the Wireline Competition Bureau (Bureau) has requested comment on a report prepared by Bureau staff regarding potential data and methods to be used in represcribing the authorized interstate rate of return (RoR) for rate-of-return regulated local exchange carriers (RLECs).[2]

In these comments, the above-listed Associations[3] describe a number of concerns regarding the data, methods, assumptions and analyses presented in the *Staff Report*. These

[1] Wireline Competition Bureau Seeks Comment on Rate of Return Represcription Staff Report, WC Docket No. 10-90, *et al.* Public Notice, DA 13- 1110 (rel. May 16, 2013) (*Public Notice*).

[2] Wireline Competition Bureau, *Prescribing the Authorized Rate of Return: Analysis of Methods for Establishing Just and Reasonable Rates for Local Exchange Carriers*, Staff Report, WC Docket No. 10-90 (rel. May 16, 2013) (*Staff Report*).

[3] The National Exchange Carrier Association, Inc. (NECA) is responsible for preparation of interstate access tariffs and administration of related revenue pools, and collection of certain

concerns are based, in part, on an analysis of the *Staff Report* conducted by Professor Randall Billingsley of Virginia Tech. Prof. Billingsley's statement, attached as Appendix A, makes clear that the methods used in the *Staff Report* to estimate the weighted cost of capital (WACC) suffer from serious shortcomings as applied to RLECs, and require significant modification. In particular, Prof. Billingsley's statement describes:

- The need for methods that use data from a representative sample of RLECs, rather than data from a group of proxy companies chosen largely because data for these companies were available;

- The need for alternative methods for calculating the WACC, in place of (or as a supplement to) traditional economic models the Bureau admits are flawed as applied to RLECs;

- The need for methods and data that do not need corrections or adjustments to offset anomalous input values;

- The critical need to adjust WACC estimates upward for the well-established small firm effect on equity capital costs and the dramatic effects of the lack of marketability and low liquidity for the majority of RLECs; and

- The need to recognize that currently low Treasury bond rates do not necessarily imply that RLEC capital costs have fallen in tandem.

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high-cost loop data. *See generally*, 47 C.F.R. §§ 69.600 *et seq.*; *MTS and WATS Market Structure*, CC Docket No.78-72, Phase I, Third Report and Order, 93 FCC 2d 241 (1983). NTCA – The Rural Broadband Association (NTCA) represents nearly 900 rural rate-of-return regulated telecommunications providers. All of NTCA's members are full service local exchange carriers (LECs) and broadband providers, and many of its members provide wireless, cable, satellite, and long distance and other competitive services to their communities. Each member is a "rural telephone company" as defined in the Communications Act of 1934, as amended. USTelecom -- The Broadband Association (USTelecom) is the premier trade association representing service providers and suppliers for the telecommunications industry. USTelecom members provide a full array of services, including broadband, voice, data and video over wireline and wireless networks. The Eastern Rural Telecom Association (ERTA) is a trade association representing rural community based telecommunications service companies operating in states east of the Mississippi River. The Western Telecommunications Alliance (WTA) is a trade association that represents more than 250 small rural telecommunications companies that provide voice, broadband and video services in the 24 states west of the Mississippi River. NECA, NTCA, USTelecom, ERTA and WTA are referred to herein as the "Associations.")

Many of these concerns can be attributable to the use of severely outdated methods to calculate the WACC for RLECs. The *Staff Report* forthrightly admits in this regard that the Commission's represcription rules "have remained largely unchanged for almost two decades."[4] In fact, most of the methods used by the Bureau to analyze cost of capital data for RLECs were developed in the 1980's, and were last used by the Commission to represcribe the authorized RoR for the telecommunications industry as a whole in 1990.[5] At that time, the industry was still considered "unified" for rate prescription purposes[6] and telephone companies did not face the widespread competition unleashed by the Telecommunications Act of 1996 (the 1996 Act), the proliferation of wireless and other alternatives to landline telephone services, or any of the myriad changes associated with the advent of Internet Protocol (IP)-based services including the World Wide Web.

Even before these regulatory and market upheavals had begun to occur, the Commission recognized its Part 65 rate-of-return rules were in need of a "complete review."[7] Today, more than 20 years after the Commission made that determination that review has not occurred yet the

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[4] *Staff Report* ¶ 4.

[5] *See Represcribing the Authorized Rate of Return for Interstate Services of Local Exchange Carriers*, CC Docket No. 89-624, Order, 5 FCC Rcd. 7507 (1990) (*1990 Represcription Order*).

[6] *See, e.g., Mountain States Tel. & Tel. Co., Nw. Bell Tel. Co., & Pac. Nw. Bell Tel. Co. Revisions to Tariff F.C.C. No. 1 Petition for Waiver of Section 65.702(c) of the Comm'n's Rules*, Order, 4 F.C.C.R. 797 (1989).

[7] *Multi-Association Group (MAG) Plan for Regulation of Interstate Services of Non-Price Cap Incumbent Local Exchange Carriers and Interexchange Carriers*, CC Docket No. 00-256, *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, *Access Charge Reform for Incumbent Local Exchange Carriers Subject to Rate of Return Regulation*, CC Docket No. 98-77, *Prescribing the Authorized Rate of Return for Interstate Services of Local Exchange Carriers*, CC Docket No. 98-166, *Second Report and Order and Further Notice of Proposed Rulemaking in CC Docket No. 00-256, Fifteenth Report and Order in CC Docket No. 96-45, and Report and Order in CC Docket Nos. 98-77 and 98-166*, 16 FCC Rcd 19613 (2001) ¶ 210 (*MAG Order*). *See infra*, pp. 34-36.

Staff Report primarily relies on the same methods to develop its recommendations. It should come as no surprise that the results obtained in the process are unreliable.

It is highly noteworthy, for example, that the WACC estimates for RLECs produced under the Bureau's methods are *lower* than estimates produced for the regional Bell Holding Companies (RHCs).[8] This appears to reflect the 1980's–era assumption that RHCs are riskier than RLECs because they engage in a variety of unregulated lines of business.[9] From a modern business perspective, however, the situation is reversed: RLECs now face significantly more marketplace and regulatory risk than RHCs precisely because they are primarily focused on serving customers in sparsely-populated, high-cost rural areas, and are highly dependent on vanishing intercarrier compensation (ICC) revenue streams and capped universal service (USF) support flows. Compared to the larger and more diversified RHCs, RLECs also have smaller percentages of large, more profitable business customers, and are thus more susceptible to business risks associated with local economic changes (*e.g.* plant closures). Whereas an RHC might easily weather the loss of one large customer out of many, such changes can be devastating for an RLEC.

Common sense suggests that an investor familiar with today's telecommunications business environment would not put dollars in an RLEC when he or she could expect the same or a *higher* return investing in an RHC (or some other entity that has diversified operations in larger markets with more enterprise customers). Yet, this is precisely the result implied by the *Staff Report's* calculations.

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[8] *Staff Report*, App. K - CAPM and DCF WACC Ranges, at 68 (suggesting an RLEC range of 6.78 percent - 8.10 percent and a RHC range of 7.35 percent - 9.13 percent.)

[9] *Staff Report*, n.45.

Clearly, alternative methods should be used. In prior comments, the Rural Associations[10] proposed using a Free Cash Flow (FCF) methodology to estimate WACC for RLECs.[11] The FCF approach is essentially an alternative specification of the traditional discounted cash flow (DCF) model used by the Bureau, one that uses market data specific to RLECs. It is commonly used by other regulatory agencies[12] and the investment community to value firms similar to RLECs and to evaluate such firms' capital requirements, and should be used by the Commission as well to estimate the WACC for RLECs.

The *Staff Report* considered the Rural Association's FCF proposal but dismissed this approach in a footnote, citing several minor concerns with the method.[13] In response to those concerns, these comments include additional market data, and FCF results recalculated using weighted means in place of median data. These modifications are described in detail in Appendix B. Updated WACC estimates using the FCF method continue to show that a RoR of at least 11.25 percent is clearly reasonable and necessary in order for RLECs to continue

[10] The "Rural Associations" include NECA, NTCA, ERTA and WTA.

[11] *See* Initial Comments of NECA, NTCA, OPASTCO, and WTA, WC Docket No. 10-90, *et al*., (filed Jan.18, 2012) (*January 2012 Rural Association Comments)* at 57-60.

[12] *E.g.*, The Federal Energy Regulatory Commission (FERC) has considered FCF in its evaluation of approval of a power company's issuance of long-term debt. *Westar Energy, Inc*, Order Conditionally Granting Authorization to Issue Long-term Unsecured Debt & Announcing New Policy on Conditioning Securities Authorizations, 102 FERC ¶ 61,186, at ¶¶ 16-17 (2003). Similarly, it has evaluated FCF evidence in considering requested regulatory incentives for desired investments. *ITC Great Plains, LLC*, Order Granting in Part & Denying in Part Rate Incentives, Conditionally Accepting Tariff Revisions, and Establishing Hearing & Settlement Procedures, 126 FERC ¶ 61,223 (2009). The Nuclear Regulatory Commission has considered FCF in determining the adequacy of financial resources required for an applicant to decommission a nuclear power plant. *Honeywell Intern., Inc. v. NRC*, 628 F.3d 568, 474 (D.C. Cir. 2010). The Copyright Royalty Judges ("CRJ") for the Librarian of Congress used FCF analysis in their decision prescribing "the royalty rate satellite radio services must pay to copyright owners for the use of sound recordings during the years 2007-2012." *Soundexchange, Inc. v. Librarian of Congress*, 571 F.3d 1220, 1221-22, 1223 (D.C. Cir. 2009).

[13] *Staff Report*, n.94.

attracting capital to support ongoing operations and additional investment in broadband services. The Associations urge the Commission to use the FCF approach as it estimates the WACC for RLECs going forward.

The Commission must also address what procedural rules it will apply in this proceeding to represcribe the authorized RoR (assuming the Commission continues to find that a new prescription is needed). The Rural Associations have previously explained that, having "waived" its Part 65 procedural rules for purposes of this proceeding, the Commission now needs to establish clear replacement rules or policies to govern the process.[14] A rule waiver does not permit the Commission to ignore section 205(a) of the Act and relevant provisions of the Administrative Procedure Act (APA), which require the Commission to provide parties with a "full opportunity for hearing" prior to issuing a rate prescription.[15] As explained below, obtaining comments on the proposals outlined in the *Staff Report* may inform the Commission in this regard, but obtaining comments on the *Staff Report* will not, by itself, satisfy section 205(a)'s requirement for a "full opportunity for hearing."[16]

For these reasons, the Commission should leave the existing RoR prescription in place for the time being and focus instead on developing new, valid procedures and reasonable rules to govern future potential represcriptions. By doing so, the Commission will assure that the authorized RoR continues to balance ratepayer interests with the RLEC industry's need to attract capital investment, and that any new RoR is prescribed strictly in compliance with section 205(a) of the Act and in accordance with the APA.

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[14] *January 2012 Rural Association Comments* at n.79.

[15] *Id.* 48; *See also* Petition for Reconsideration of NECA, OPASTCO, and WTA, WC Docket No. 10-90, *et al.*, at 29 (filed Dec. 29, 2011) (*December 2011 Rural Association PFR*) at 26.

[16] 47 U.S.C. § 205(a).

II. BACKGROUND

In its November 2011 *USF/ICC Order*,[17] the Commission reviewed rates for 10-year Treasury obligations and determined on that basis that the current interstate authorized rate of return of 11.25 percent was too high.[18] It accordingly initiated a proceeding to represcribe the authorized RoR[19] and asked parties to submit comments on a number of questions relating to the WACC for RLECs, including information on RLEC capital structures, whether larger publicly-traded companies such as the RHCs should continue to be used as surrogates for RLECs, information on RLEC costs of debt, preferred stock and equity investments, and what factors should be used in determining a "zone of reasonableness" prior to arriving at a RoR prescription.[20] In the same Order, however, the Commission peremptorily concluded that the authorized interstate RoR for RLECs "should be no more than 9 percent."[21]

NECA, OPASTCO and WTA sought reconsideration of this and other aspects of the Commission's *USF/ICC Order*.[22] The *December 2011 Rural Association PFR* pointed out that the Commission had previously determined its traditional methods for analyzing cost of capital

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[17] *Connect America Fund*, WC Docket No. 10-90, *A National Broadband Plan for Our Future*, GN Docket No. 09-51, *Establishing Just and Reasonable Rates for Local Exchange Carriers*, WC Docket No. 07-135, *High-Cost Universal Service Support*, WC Docket No. 05-337, *Developing an Unified Intercarrier Compensation Regime*, CC Docket No. 01-92, *Federal-State Joint Board on Universal Service*, CC Docket No. 96- 45, *Lifeline and Link-Up*, WC Docket No. 03-109, Notice of Proposed Rulemaking and Further Notice of Proposed Rulemaking, 26 FCC Rcd. 17663 (2011) (*USF/ICC Order* or *FNPRM*).

[18] *See Id.* ¶¶ 638-640.

[19] *Id.* ¶ 641.

[20] *FNPRM* ¶ 1056.

[21] *Id.* ¶ 1057.

[22] *December 2011 Rural Association PFR* at 26-29.

for RLECs could not be used any longer, yet it appeared the Commission was planning to use those very same outdated methods to prescribe a new RoR.[23] The Rural Associations explained that the Commission must first establish a represcription methodology that reflects the circumstances RLECs actually face today – not "industry" conditions that prevailed in the 1980's[24] – and also explained that the Commission would need to provide interested parties an opportunity to present and respond to evidentiary showings focused on that methodology in order to satisfy section 205(a)'s requirement for a "full opportunity for hearing."[25] To date, the Commission has not addressed this aspect of the Rural Associations' reconsideration petition.

Despite the significant uncertainty surrounding represcription methods and evidentiary procedures to be used in this proceeding, the Rural Associations responded as extensively as possible to the questions the Commission posed in the *FNPRM* regarding the authorized RoR.[26] The *January 2012 Rural Association Comments* explained in detail changes in the telecommunications marketplace and regulatory environment that have occurred since 1990 and why various assumptions regarding the impacts and relevance of national interest rate trends, as well as the supposed comparability of RLECs to larger "industry" players like AT&T and Verizon, have clearly become outdated.[27]

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[23] *Id.* 27.

[24] For example, at the end of the 1980s and continuing until recently, RLECs could charge for the use of their network for the origination and termination of interstate calls, through interstate access charges. Today, RLECs are on a path that eliminates terminating access charges without full replacement of the revenue taken away by revised Commission policies. Changes in Commission policy towards Universal Service funding between the 1980's and the present day are even more dramatic.

[25] *December 2011 Rural Association PFR* at 27-29.

[26] *See, January 2012 Rural Association Comments* at 47-63.

[27] *E.g.*, the Rural Associations explained that the Commission cannot assume AT&T and Verizon are comparable in risks to RLECs, but must explain why their risks are comparable and why

The Rural Associations also provided the Commission with a paper by Professors Barbara Cherry, of Indiana University, and Steven Wildman, then of Michigan State University,[28] which further emphasized the need for the Commission to consider overall universal service policy directions and the impact of regulatory and marketplace changes before engaging in rate represcriptions. Professors Cherry and Wildman concluded that, when represcribing the rate of return for RLECs,

> the FCC is, by regulatory design, creating interdependencies between the financial viability of RLECs and the availability of affordable universal service to rural and remote areas. For both legal and economic reasons, this regulatory design must enable the RLECs to remain financially viable firms. . . . There is long-standing legal precedent for prescribing rate of return in the upper range for RLECs, and both legal and economic reasons for treating RLECs differently from price cap LECs. Furthermore, we apply a multi-period economic model to show that numerous design flaws and uncertainties under the *CAF Order* can be addressed, at least in part, by prescribing a rate of return in the upper range. *Reductions in funding support, costly new obligations, more stringent waiver requirements, and uncertainties regarding interpretation and implementation of the CAF Order must all be offset by a higher rate of return.*[29]

The *January 2012 Rural Association Comments* included extensive information demonstrating the cost of capital for RLECs in the current market and regulatory environment is

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other companies not selected as comparable have dissimilar risks. *Id.* n.74; *December 2011 Rural Association PFR* at 26-27. *See also, Petal Gas Storage, L.L.C. v. FERC*, 496 F.3d 695 (D.C. Cir. 2007) ("What matters is that the overall proxy group arrangement makes sense in terms of relative risk and, even more importantly, in terms of the statutory command to set 'just and reasonable' rates, 15 U.S.C. § 717c, that are 'commensurate with returns on investments in other enterprises having corresponding risks' and 'sufficient to assure confidence in the financial integrity of the enterprise ... [and] maintain its credit and ... attract capital . . . .'" *Id.* at 700, *citing Hope Natural Gas Co.*, 320 U.S. at 603.)

[28] Prof. Wildman currently serves as the Commission's chief economist. News Release, FCC, FCC Announces Appointment of Steven Wildman as New Chief Economist (Dec. 27, 2012).

[29] *January 2012 Rural Association Comments*, App. B, Professor Barbara Cherry & Professor Steven Wildman, Paper: The Rate of Return for RLECs Must be in the Upper Range for Reform under the Connect America Fund Order to Ensure Sustainable Policy Goals, at 21-22 (emphasis added).

significantly higher than the Commission's analysis of AT&T and Verizon data would otherwise indicate, justifying continuation of an interstate RoR of at least 11.25 percent, if not higher, for RLECs during the foreseeable future.[30] This information included an analysis developed by Professor Randall Billingsley, of Virginia Tech, that examined capital costs for a portfolio of firms exhibiting comparable overall risk to RLECs.[31] Professor Billingsley pointed out that the Commission cannot rely on data of companies like AT&T and Verizon to determine the RLECs' WACC unless it can demonstrate that the risks of these two companies are in fact similar to those of RLECs.[32] Professor Billingsley also explained how it is possible to use objective financial measures based on cluster analyses to determine groups of firms facing business and financial risks comparable to those faced by RLECs. His analysis showed that the forward-looking WACC for RLECs is at least 11.48 percent.[33]

The Rural Associations also provided evidence based on RLEC acquisition prices that suggested costs of capital for RLECs substantially exceed the Commission's preliminary estimates. This approach determined a market-based cost of capital for RLECs by dividing current free cash flow (FCF) by the value of the firm.[34] In this case, valuation was determined by examining per-line prices paid in RLEC acquisition transactions. This reasonably assumes

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[30] *Id.* 49-50.

[31] *Id.* 50, Appendix C, Statement of Prof. Randall S. Billingsley, FRM, CRRA, CFA.

[32] *Id.* To be clear, mere co-existence in the same industry is not enough to make a company comparable for purposes of assessing risk. For example, saying that a given RLEC serving a single study area of 6,000 households faces the same level of risk as a multi-national conglomerate like AT&T would be akin to saying that a food truck parked on the corner of 13th and K Street has the same risk profile as McDonalds – the simple fact that both sell hamburgers does not, by itself, make them realistic proxies or even relevant comparisons for risk assessment.

[33] *Id.* 57, Appendix C at 8, 28, 30.

[34] *Id.* 50.

that per-line prices paid by knowledgeable investors fully account for current and prospective market and regulatory factors that influence the value of the transaction. Because most RLECs do not have publicly-traded stock that allow direct estimation of a required return on equity, looking at per-line acquisition prices is the best, most objective means of measuring the required return. Indeed, it is that absence of liquidity characterizing non-traded RLECs that makes investing in these companies far riskier than investing in an RHC like Verizon or AT&T.

The *January 2012 Rural Association Comments* recognized that a number of issues are associated with using per-line prices to estimate RLEC capital costs. The comments also pointed to difficulties with selecting a representative price per line given lack of more recent acquisition data and differences in quality between RHC and RLEC exchange assets.[35] Instead of attempting to address each of these issues on a case-by-case basis, however, the Rural Associations suggested a reasonable alternative approach would be to look at a range of prices for sales occurring between 2008 and 2011.[36] These numbers show a steady decline in valuations over the period.[37] Since sales prices in prior years were considerably higher, it is reasonable to expect that prices would continue to decline in the future. The Rural Associations conservatively analyzed FCF values using per-line prices ranging from $2,400 to $1,200. This

[35] *Id.* 58. It is reasonable to expect that RHC exchange assets generally sell for higher per-line prices than RLEC exchange assets, which implies higher RLEC capital costs.

[36] *Id.* 59. *See also* FairPoint Communications, Inc., Form 10-K (Dec. 31, 2008) (purchase of 1.6 million access lines for approximately $1,700 per line); Qwest Communications International, Inc., Form 10-K (Dec. 31, 2011) (purchase of 8.8 million access lines for approximately $2,400 per line). Additional information on acquisition pricing was obtained from JSI Capital Advisors, LLC.

[37] *Id.* 59.

produced median cost of capital values of at least 11.75 percent, depending on price-per-line values.[38]

The Rural Associations explained that these numbers appear to reflect an objective marketplace assessment by investors of current business risks associated with RLEC operations.[39] Indeed, given today's marketplace uncertainties as well as regulatory risks posed by various factors, including reforms to existing USF and ICC mechanisms (which consist almost entirely of cuts and reductions to existing programs), the Rural Associations suggested that investors would probably not pour additional money into a small rural telephone company without the potential for significant upside returns.[40] This practical, market-based assessment strongly contravenes the conventional, but unproven, assumption that historically low spot-market interest rates meaningfully reflect the true cost of capital for RLECs.[41]

The Rural Associations accordingly suggested the Commission defer further action on rate represcriptions until the market has had time to adjust more completely to changes effectuated in the *USF/ICC Order* as well as any further changes adopted pursuant to the Commission's *Further Notice*. At that point, the Commission and interested parties would be in a far better position to gather factual evidence and analyze comprehensively how changes in the telecommunications, financial and regulatory environments are affecting RLECs and their actual costs of obtaining capital.

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[38] *Id.*

[39] *Id.* 60.

[40] *Id.*

[41] *Id*.

III. THE COMMISSION CANNOT REASONABLY RELY ON THE RECOMMENDATIONS SET FORTH IN THE *STAFF REPORT* TO REPRESCRIBE THE AUTHORIZED RATE OF RETURN.

One year following submission of comments and replies in response to the Commission's FNPRM, the Bureau issued its *Staff Report* discussing various methods and data sources the Commission might use to determine the WACC for RLECs. Among other things, the *Staff Report* recommends use of the RHCs, publicly-traded mid-size companies, and a small number of publicly-traded RLECs as a proxy group for RLECs generally.[42] The *Staff Report* also recommends calculating the cost of equity using both the Capital Asset Pricing Model (CAPM) and the Discounted Cash Flow (DCF) model, and discusses various issues surrounding determination of a "zone of reasonableness" within which the rate of return can be selected.[43]

Based on these analyses, the *Staff Report* estimates a reasonable range for the RLEC authorized RoR would extend from 7.39 percent to 8.72 percent.[44] Inasmuch as interest rates are currently at historically low levels, and considering the fact that RoR represcription proceedings are conducted infrequently, the *Staff Report* concludes that the Commission should consider establishing the authorized RoR for RLECs in the upper half of this range, between 8.06 percent and 8.72 percent.[45]

The Commission has substantial discretion when setting an authorized rate of return, and may consider a broad array of evidence and methodologies in prescribing the authorized rate of

[42] *Staff Report* ¶ 13.

[43] *Id.*i, ¶¶ 51, 117.

[44] *Id*. i, ¶¶ 62, 93.

[45] *Id.* ¶ 3.

return.[46] But the Commission's discretion is not unbounded. The Administrative Procedure Act (APA) would require a court to set aside a represcription order that is arbitrary or capricious.[47] An agency is also allowed to change its policies, but only if it provides a reasoned explanation for the change. As the Supreme Court recently noted:

> [T]he requirement that an agency provide reasoned explanation for its action would ordinarily demand that it display awareness that it *is* changing position. An agency may not, for example, depart from a prior policy *sub silentio* or simply disregard rules that are still on the books. See *United States* v. *Nixon*, 418 U. S. 683, 696 (1974). And of course the agency must show that there are good reasons for the new policy.[48]

Here, a represcription decision based on the recommendations set forth in the *Staff Report* would almost certainly be considered arbitrary and capricious because the Bureau's analyses are based on rules that demonstrably do not reflect today's telecommunications environment and that the Commission itself has said require updating. As such, the *Staff Report's* recommendations appear to reflect numerous *unacknowledged* and unexplained reversals of Commission policy.

Moreover, the calculations set forth in the *Staff Report* are based on data from a proxy group of RHCs, mid-size companies and publicly-traded RLECs that the Bureau admits were chosen primarily because data from these companies were available, not because these proxy companies have been demonstrated to be representative of RLECs.[49] The Commission cannot reasonably prescribe a new authorized RoR based on data chosen for the sake of its convenience rather than comparability. Finally, the *Staff Report* also reflects a number of incorrect and

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[46] *E.g., Amendment of Parts 65 and 69 of the Commission's Rules to Reform the Interstate Rate of Return Represcription and Enforcement Process*, CC Docket No. 92-133, Report and Order, 10 FCC Rcd. 6788 (1995) ¶ 12 (*1995 Represcription Order*); *Illinois Bell v. FCC*, 988 F.2d at 1254, 1265-66 (D.C. Cir. 1993).

[47] 5 U.S.C. § 706(2)(A).

[48] *FCC v. Fox*, 556 U.S. 502, 515 (2009).

[49] *See Staff Report* ¶¶ 11-25.

unrealistic assumptions regarding the cost and availability of credit to RLECs, and relies on estimation techniques which the Bureau admits are flawed and which the Commission itself has previously rejected.

In the following sections, the Associations discuss these concerns in detail. Further analyses are presented in the statement of Prof. Randall Billingsley, attached to these comments as Appendix A.

A. The Commission Must Give Adequate Weight to The Dramatic Marketplace And Regulatory Changes Affecting The Cost of Capital For RLECs.

The record in this proceeding shows that RLECs face unprecedented challenges in the provision of regulated telecommunications services.[50] Changes in the landline telephone business, combined with cuts to universal service support and ICC revenue streams under the Commission's *USF/ICC Order* imposed despite continuing carrier-of-last-resort (COLR) service and new broadband investment obligations, are literally causing investment in regulated RLEC businesses to dry up[51] and all but shutting the spigot on access to capital for network investment.[52]

While the *Staff Report* acknowledges concerns about outdated methods, it makes only minor adjustments (*e.g.*, slight expansion of the sample of proxy companies) to methods and assumptions that appear firmly rooted in the telecommunications environment of the 1980's

[50] *See e.g.*, Comments of Moss Adams, *et al*., WC Docket No. 10-90, at 24 (filed Jan. 24, 2012); Alaska Rural Coalition, WC Docket No. 10-90, at 3, 12 (filed Jan. 18, 2012); Comments of Calaveras Telephone, WC Docket No. 10-90, at 11-12 (filed Jan. 18, 2012).

[51] *See e.g.*, Petition for Stay of NECA, NTCA, OPASTCO, and WTA, WC Docket No. 10-90, at 10-12 (filed May 25, 2012); Comments of the Nebraska Rural Independent Companies, WC Docket No. 10-90, at 55 (filed Jan. 18, 2013); Comments of Chillicothe Telephone, WC Docket No. 10-90, at 11 (filed Jan. 18, 2012).

[52] *See* Michael J. Balhoff & Bradley Williams, *State USF White Paper: New Rural Investment Challenges,* (Balhoff & Williams, LLC, June 2013).

rather than today's world. Factors requiring recognition by the Commission in considering any potential represcription of the authorized RoR have previously been described by the Rural Associations,[53] and include the following:

Marketplace Changes: For most of the last century, RLECs recovered the costs of originating and terminating long distance calls from revenue sharing or settlement arrangements with traditional long distance carriers. During the 1980's and 1990's, these arrangements were replaced by tariffed access charges during a period where companies saw substantial growth in interstate and intrastate long distance toll services. These traditional voice services now face competition from "over the top" VoIP providers, wireless services, and cable companies, and there have been substantial drops in revenues and demand for traditional switched access services. RLECs' interstate access minutes of use in the 1990's, for example, grew at a rate of about 13 percent per year. Current demand for RLEC switched access service is declining by approximately 8 percent per year.[54] Similarly, access lines grew at a rate of about 5-6 percent per year in the 1990's as customers added second lines for fax machines and dial-up Internet services. Today, RLEC access lines are declining by approximately 4 percent per year as consumers increasingly employ single, multiple-use broadband connections for voice, data and video or elect to depend entirely on mobile services.[55]

The Commission itself has acknowledged this transition, opening up dockets to examine how to manage this evolution and seeking input on how to recast universal service support to enable RLEC-served consumers to obtain affordable broadband services without purchasing

[53] *January 2012 Rural Association Comments* at 51-54.

[54] Growth rates based on a sample of 1,026 members of NECA's Common Line pool.

[55] *Id.*

local telephone service as well.[56] These reforms have not yet been accomplished, however, and thus RLECs continue to face uncertainty regarding cost recovery for existing services and for critical new broadband services.

The Economy: In initiating this proceeding, the Commission correctly noted that interest rates are at historically low levels.[57] However, the history of business cycles and Federal Reserve Board interest rate policies make it certain that interest rates will rise and fall periodically, and that 10-year Treasuries will exceed their current low level for much of the 15-to-30 year useful life of broadband lines. As discussed below and as explained in the accompanying statement of Prof. Billingsley, the Commission should use a higher normalized rate, as current market rates are likely to prove unrepresentative of future interest rates.

Low interest rates that may be available to large companies like AT&T and Verizon mean little or nothing for RLECs. Lenders indicate they have been reluctant to extend new loans to rural carriers since implementation of the *USF/ICC Order* began because they are unsure of carriers' abilities to service the debt in a world of 5 percent annual reductions to ICC revenues and capped, budgeted and otherwise unpredictable USF revenues.[58] There is a key difference between the mere level of risk-free interest rates as reflected in Treasury notes and the ability of

[56] *See Pleading Cycle Established on AT&T and NTCA Petitions*, GN Docket No. 12-353, Public Notice, DA 12-1999 (rel. Dec. 14, 2012); Technology Transition Policy Task Force Seeks Comment on Potential Trials, GN Docket No. 13-5, Public Notice, DA 13-1016 (rel. May 10, 2013); *Wireline Competition Bureau Seeks Comment on options to Promote Rural Broadband in Rate-of-Return Areas*, WC Docket No.10-90, Public Notice, DA 13-1112 (rel. May 16, 2013).

[57] *FNPRM* ¶ 1046.

[58] *E.g.*, Comments of NECA, WC Docket No. 10-188, at 10 (filed Oct. 15, 2010). *See, e.g.*, Comments of CoBank, WC Docket No. 10-90, *et al.* (filed Apr. 18, 2011); Letter from Jonathan Adelstein, Rural Utilities Service, to Marlene Dortch, FCC, WC Docket No. 10-90, *et al.*, Attach. (July 29, 2011); Letter from C. Douglas Jarrett, Rural Telephone Finance Cooperative, to Marlene H. Dortch, FCC, CC Docket No. 01-92, *et al.*, attach. (Aug. 10, 2011).

RLECs to obtain loans. For example, RLEC investments consist mostly of sunk costs (*e.g.*, copper or fiber transmission plant, legacy switches and new "softswitches", SONET transport technology, etc.). Because such investments have little value on the open market, RLECs are unable to offer much in the way of collateral to lenders. Lack of liquid collateral tends to make lenders hesitant to extend credit to RLECs.

The *Staff Report* assumes that RLECs have access to "extensive funding" as well as below-market rate loans from lenders such as CoBank.[59] But as CoBank itself recently made clear, "[t]here is no such thing as a CoBank 'subsidized' interest rate for telecommunication borrowers."[60] CoBank further explained that it uses a variety of key ratios for decision-making and risk assessment to evaluate loans[61] and that, in light of changes in the marketplace and the various caps and limitations placed on USF and ICC pursuant to Commission rule changes, many RLECs do not currently meet its lending standards.[62] Since, in CoBank's view, any reduction in the prescribed RoR will further decrease the ability of RLECs to obtain debt capital, CoBank strongly advises the Commission not to take further action regarding the RoR at this time.[63]

The Associations strongly agree. Uncertainty regarding stable, predictable cost recovery is clearly making it difficult for RLECs to obtain credit from traditional industry financing

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[59] *See, e.g., Staff Report* ¶ 49.

[60] *See* Comments of CoBank, ACB, WC Docket No. 10-90 (filed June 21, 2013) at 4 (CoBank Comments).

[61] Including: Debt/EBITDA (Earnings before Interest, Taxes, Depreciation and Amortization, Equity/Assets, Debt Service Coverage (DSC) which is (EBITDA – taxes / principal payments on long term debt + interest expense); and EBITDA/Interest Expense. *Id.* 5-6.

[62] *Id.* 4.

[63] *Id.* 6.

sources such as CoBank. In this environment, it is unreasonable for the Commission to assume the availability of "easy credit" at below-market rates for RLECs. This further reduces the relevance of today's abnormally low market interest rates in calculating the WACC for RLECs.

Regulatory Uncertainty: RLECs have operated under a regulatory cloud for years as the Commission has considered fundamental changes to its universal service and ICC policies. Although the *USF/ICC Order* addressed a number of outstanding issues, significant implementation issues and details remain unresolved, and fundamental hurdles to the establishment of a Connect America Fund for RLECs remain unaddressed. Moreover, RLECs and their potential lenders and investors are still trying to determine the long-term as well as near-term impacts of the Commission's implementation decisions. What is known at this time regarding the Commission's 2011 *USF/ICC Order* is that RLECs must meet new obligations to provide broadband services to their rural customers while simultaneously absorbing cuts in USF funding, with the threat of further cuts to come as the Commission continues to adopt changes to rules governing support.

Over the next decade, the industry will also be transitioning from the traditional "calling party pays" regime, which as noted above provided carriers with reimbursement of costs to originate and terminate interexchange calls, to one where such intercarrier compensation is reduced to zero. While the Commission's rules provide an access Recovery Mechanism (RM) for some portion of these costs, it has not yet been established for all aspects of the rate elements the Commission indicates must ultimately go to zero.[64]

[64] *USF/ICC Order* ¶ 847. *See also January 2012 Rural Association Comments* at 55.

The *Staff Report* devotes only a single paragraph to discussing changes in the telecommunications marketplace and regulatory environment, [65] but fails to consider the significance these changes might have on the represcription process. This is surprising, considering the active role played by the Bureau in proposing and implementing these significant regulatory shifts in the past few years. It is essential that the Commission fully take into account the impacts these changes have had on the overall telecommunications marketplace, and the plight of RLECs in particular, as it evaluates recommendations set forth in the *Staff Report.*

B. The "Opportunity Sample" Chosen by The Bureau For Its WACC Analysis is Unrepresentative of RLECs And Must be Rejected.

The Commission has previously recognized the critical need to base rate represcriptions on data from "comparable" firms (*i.e.*, firms exhibiting risk characteristics that are similar to those experienced by providers subject to the prescribed RoR). In developing the initial Part 65 represcription process, for example, the Commission had hoped to use a series of "screens" to identify "comparable" firms, but concluded that additional refinement to the methodology was necessary because the firms produced by the "screens" did not exhibit risk characteristics similar to firms offering interstate access service.[66] Comparability was likewise critical in the 1990 represcription proceeding.[67] Courts have recognized as well that the authorized rate of return

[65] *Staff Report* ¶ 4.

[66] *Authorized Rates of Return for Interstate Services of AT&T Communications and Exchange Telephone Carriers*, CC Docket No. 84-800, Phase II, *Memorandum Opinion and Order on Reconsideration*, 104 FCC 2d 1404 (1986) ¶¶ 21-23 (citations omitted) (*1986 Part 65 Reconsideration Order*).

[67] *1990 Represcription Order* ¶ 181 ("We have examined each of the LECs' comparable firms analyses and have found that they are entitled to little weight in our decision because those analyses have not identified groups of firms comparable in risk to interstate access service.").

should be "commensurate with returns on investments in other enterprises having corresponding risks."[68]

The *Staff Report* acknowledges that "[t]he reliability of the Commission's analysis depends in large part on the representativeness of the proxy group it uses."[69] The Bureau's solution to the "comparable firm" problem, however, is to select a sample of sixteen telecommunications companies that include mid-sized companies and a few publicly-traded RLECs in addition to three RHCs.[70]

The *Staff Report* acknowledges that the RHCs differ significantly from the RLECs that are the subject of this represcription proceeding,[71] but utilizes them, not because they exhibit comparable risk, but because there is a wealth of information about them that supposedly makes for robust cost of equity calculations.[72]

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[68] *Illinois Bell Tel. Co. v. FCC*, 988 F.2d 1254, 1260 (D.C. Cir. 1993) (quoting *Hope Natural Gas Co.*, 320 U.S. at 603).

[69] *Staff Report* ¶ 11. The *Staff Report* ¶ 6 similarly quotes from the same court decisions cited above.

[70] *Id.* ¶ 13.

[71] *E.g.*, *id.* ¶ 25 ("With regard to the second and third prongs, however, there appears to be an inverse relationship between the similarity to rate-of-return operations and the reliability of financial data. The RHC Proxy companies have frequently-traded equity and numerous analysts' growth estimates, making their financial data highly reliable for purposes of our CAPM and DCF analysis, but with their more urban service areas and price-cap or price-flexibility regulation, have operations least similar to those of rate-of-return carriers."); *Id.* ¶ 48 ("The average embedded cost of debt for all 16 carriers is 6.19 percent. For the RHCs it is 5.17 percent, the lower rate likely reflecting, among other things, their financial stability in the eyes of lenders."); *Id.* ¶ 16 ("We agree that RHCs likely differ significantly from other incumbent LECs and we therefore do not recommend that the Commission rely *exclusively* on RHC data in a represcription proceeding.") (emphasis in original). Given the admitted lack of comparability, however, it would appear *prima facie* arbitrary and capricious to accord *any* reliance on the RHCs' financial information.

[72] *Id.* ¶ 19 ("In this vein, the RHCs should be included in any analysis of incumbent LECs' rates of return because they will provide the most reliable discounted cash flow (DCF) estimates for

In this regard, the *Staff Report* appears to suffer from "streetlight effect" bias – *i.e.*, the tendency to use data simply because it is available, not because it is relevant.[73] The Bureau's selection criteria appear arbitrary for other reasons as well. For example, the Bureau's approach limits consideration to companies with a minimum of 10 percent of operations associated with interstate telecommunications services.[74] No justification is provided for this percentage, which on its face appears far lower than for RLECs as a group.[75] Companies have also been selected on the basis that they offer services similar to those offered by RLECs,[76] yet it is entirely unclear how the Bureau defines "similar services." Another reason proffered by the Bureau for selecting its "comparable" group is that these companies offer publicly-traded, liquid securities.[77] But by definition, such companies are not representative of RLECs.

Within each subgroup of supposedly comparable companies there are other anomalies that should raise caution flags at the Commission. For example, the *Staff Report* assumes without proof that the RHCs are in riskier businesses than RLECs.[78] While it might have been reasonable in the 1980's to assume that new lines of business such as mobile telecommunications

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the cost of equity. There is a significantly greater number of analysts' growth estimates for the RHCs than for the other incumbent LECs.").

[73] *See, e.g.*, http://en.wikipedia.org/wiki/Streetlight_effect (recounting story of a policeman who sees a drunk man searching for something under a streetlight and asks what the drunk has lost. The drunk replies that he lost his keys and they both look under the streetlight together. After a few minutes the policeman asks if he is sure he lost them here, and the drunk replies, no, he lost them in the park. The policeman asks why he is searching here, and the drunk replies, "this is where the light is.")

[74] *Staff Report* ¶ 12.

[75] Professor Randall Billingsley Statement, App. A, at 2, 4 (*Billingsley Statement*).

[76] *Staff Report* ¶ 12.

[77] *Id.* ¶¶ 12-13.

[78] *Id.* n.45.

and information services exposed the RHCs to increased risk, few investors today would suggest a small rural company primarily dependent on the landline voice telephony business and declining federal USF support and ICC dollars is less risky than a giant telecommunications company with extensive, diverse wireline, wireless, Internet and information services holdings.

Differences in regulatory approaches applied to the RHCs and RLECs also require recognition.[79] Indeed, common sense suggests that diversified RHCs are now much safer than RLECs and should therefore find it easier (and cheaper) to attract capital investment. Yet the Bureau's analyses show ranges of WACC estimates for RHCs that are higher than the range developed for RLECs.[80]

The Bureau also suggests that data from RHCs will produce the most reliable estimates of DCF cash flows.[81] While quality of data is important, the fact that RHCs provide more reliable estimates of cash flows may only demonstrate that these companies are much safer and more reliable from an investor's viewpoint.[82]

The Bureau likewise admits that mid-size companies differ from RLECs in that they are under price cap regulation, are larger than most RLECs, have a larger share of debt in their capital structures, and have non-investment grade debt ratings.[83] They are thus less than ideal

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[79] The Commission and Congress have made major policy decisions since the 1980s that have made RBOCs and other larger LECs very different from RLECs (*e.g.*, price cap regulation, the authorization for the RBOCs to offer interLATA services, forbearance from many legacy regulations, auction and consolidation of wireless spectrum, permission to offer video and other entertainment services, bundling of services). The *Staff Report* does not appear to recognize the importance of these policy decisions and their differing economic effects on RHCs and RLECs

[80] *Supra,* n.8.

[81] *See Id.* ¶ 25.

[82] The Bureau admits there appears to be an inverse relationship between reliability of financial data and similarity to RLECs. *Id.*

[83] *Id.* ¶ 22.

for estimating the cost of capital for RLECs, who typically have lower levels of debt. The Bureau also recognizes that the poor debt ratings of some of the mid-size companies could be an indication of the riskiness of their landline operations, yet elects to treat such companies as outliers in its analysis,[84] effectively ignoring the potentially critical effect such risks impose on RLECs.[85]

Finally, the Bureau's analysis incorporates data from a small group of publicly-traded RLECs, including Hickory Tech, ShenTel, TDS, Consolidated, New Ulm, Lumos, and Alteva.[86] But publicly-traded companies are qualitatively different from non-traded RLECs and thus cannot be considered representative of all RLECs. Some of the publicly-traded RLECs have substantial wireless operations, which may not be typical for RLECs in general. Numerous firms showed signs of financial distress during the sample time period and FairPoint was in bankruptcy during this time.[87] The *Staff Report* recognizes that these companies are followed by only a small number of financial analysts, which raises questions about the reliability of analysts' estimates used in the Bureau's DCF calculations. These companies' stocks also tend to be thinly-traded, which in turn causes a downward bias in CAPM estimates based on their data.[88] No solutions are offered for these concerns.

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[84] *Staff Report* ¶ 21.

[85] The *Staff Report* only notes in passing that one of the mid-size companies (FairPoint) was in bankruptcy during the period October 2009 – January 2011. *See* http://biz.yahoo.com/e/110114/frp8-k.html. This circumstance almost certainly caused significant operational problems for the company during this period, as management resources are typically focused on bringing the company out of bankruptcy rather than on normal day-to-day business. Bankruptcy of a key company reinforces the point that the sample is probably unrepresentative.

[86] *Id.* ¶ 23.

[87] *Billingsley Statement* at 7.

[88] *Staff Report* ¶ 24.

The Commission might reasonably overlook these problems if it were true, as the *Staff Report* suggests, that no reasonable alternative exists.[89] But in fact it is perfectly possible for the Commission to obtain reliable, relevant data from RLECs themselves. The *January 2012 Rural Association Comments* suggested one method that relies on RLEC data. *S*ection IV and Appendix B of these comments includes additional detail regarding that proposal.

C. In Seeking to Determine The Cost of Equity, The Bureau Relies on Applications of Economic Models it Admits Are Unreliable And Flawed.

In previous represcription proceedings, the Commission rejected any reliance on the Capital Asset Pricing Model ("CAPM"). For example, in the Commission's inaugural represcription of the authorized rate of return under the then-new Part 65 procedures, the Commission declined to utilize a CAPM methodology.[90] Likewise, in the last formal represcription proceeding in 1990 using the Part 65 procedures, the Commission accorded no weight to CAPM results.[91]

The *Staff Report* quotes the Commission's statement from the 1990 represcription decision that "[w]e continue to believe that the CAPM approach has the potential to provide

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[89] *But see AT&T v. FCC*, 449 F.2d 439 (2nd Cir. 1974) (where the court remanded the Commission's prescription of a practice requiring unlimited sharing of TELPAK services because the Commission failed to find such practice was "just, fair and reasonable" but instead only "the best alternative available." *Id.* at 450-51. Here, the Commission seeks to prescribe a new RoR and, under section 205(a) must find it "just, fair and reasonable." The *Staff Report's* recommendation to use flawed information (data from firms not shown to be comparable to RLECs) on the basis that such data is the "best available alternative" will not in the Rural Associations' view support the necessary "just and reasonable" findings.

[90] *1986 Part 65 Reconsideration Order* ¶ 79.

[91] *1990 Represcription Order* ¶ 139 ("We conclude that these CAPM estimates are likely to overstate the cost of equity capital, and that no weight should be given to them") and at ¶ 181 ("We have also found that the CAPM analyses in the record can be accorded little weight in this represcription proceeding").

estimates of the cost of equity capital with the same reliability as the DCF approach,"[92] but cites no authorities or studies that have since validated the use of the CAPM for RLECs. Indeed, the *Staff Report* cites a litany of problems with utilizing CAPM analyses in a regulatory context, including the fact that key components "are prone to measurement error because these estimates involve speculation as to investor expectations."[93] The *Staff Report* also acknowledges that "[t]he true value of each of the inputs required to implement the CAPM is unknown, and each is difficult to measure precisely."[94] Indeed, the *Staff Report* goes on to note that:

> As for the CAPM, there is compelling evidence that it does not accurately predict equity returns, which is the ultimate test for a model used specifically for the purpose of estimating the cost of equity, as we do here.[95]

The *Staff Report* also admits that the CAPM results it obtained were "anomalous":

> As shown in Appendix I1, the CAPM estimates are low compared to the cost of debt. This is anomalous; because equity is subordinate to debt with regard to a company's profits and assets, equity should command a higher return.[96]

The Bureau attempts to gloss over problems with the CAPM by "averaging" the results,[97] but does not explain why averaging bad information would turn flawed information into accurate estimates of the cost of equity. Nor does the *Staff Report* acknowledge, let alone explain, good

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[92] *Staff Report* ¶ 57, quoting from the *1990 Represcription Order* ¶ 139.

[93] *Id.* ¶ 58, citing Eugene F. Fama and Kenneth R. French, The Capital Asset Pricing Model: Theory and Evidence, J. ECON. PERSP. at 44 n.7 (2004) (*Fama and French*).

[94] *Id.*

[95] *Staff Report* ¶ 61, *citing Fama and French*; Roger A. Morin, *Regulatory Finance: Utilities' Cost of Capital*, 175-89, 338 (Public Utilities Reports 1994) (*Morin Regulatory Finance*).

[96] *Staff Report* ¶ 84.

[97] *Id.* ("By averaging the estimates for the entire sample of 16 companies, and emphasizing that average in our analysis, however, the effect of at least some, though not necessarily all, of any such measurement error might be removed.")

reasons to change the Commission's previous rejection of such averaging as a cure.[98] The Bureau attempts to make other adjustments to address these anomalies, but it is unclear what impacts such adjustments may have on results.[99] Prof. Billingsley's attached Statement elaborates on the small firm and liquidity effect adjustments that would make the application of the CAPM to the RLECs yield more reliable cost of capital estimates.[100]

In addition, as Prof. Billingsley explains in his attached Statement, the Bureau's use of an artificially low risk-free rate of return in applying the CAPM also results in an understatement of forward-looking equity costs for RLECs. He notes that the *Staff Report* uses a Treasury bond rate as of a single day that is artificially depressed to a level not seen for decades due to the effects of the recent financial crisis. A higher normalized rate should be used because the *Staff Report's* risk-free rate is unrepresentative.[101]

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[98] *See 1990 Represcription Order* ¶ 164:

> Siegel's comparable firms analysis has also been criticized. Various parties contend that his cash flow selection criterion is biased towards highly profitable companies, that his firm size criterion gives significance to the irrelevant history of how the LECs chose to divide up their operations into subsidiaries, and that the extremely large range of betas for the selected companies indicates that he has not identified companies with similar risks. Siegel denies that the cash flow criteria is biased and responds to the beta analysis by arguing that he only used the group average beta in making his cost of equity estimate. *We do not believe that averaging nullifies the criticism*. (emphasis added)

[99] *Staff Report* ¶ 88:

> This adjustment is not without its own problems. On one hand, to the extent our estimates of the cost of debt are too high, this choice would bias upward our estimates of the return on equity. On the other hand, since the cost of equity typically would materially exceed the cost of debt, assuming a cost of equity that equals the cost of debt tends to bias our estimates downwards. *It is not clear which of these two offsetting biases is likely to be larger."*

(emphasis added)

[100] *Billingsley Statement* at 8 - 13.

[101] *Id.* 13-15.

Given the failure to explain the departure from the Commission's previous rejection of CAPM and the *Staff Report*'s acknowledgement of the flaws with CAPM, Commission reliance on the *Staff Report*'s CAPM results would clearly be considered arbitrary and capricious.

D. The Bureau's Analysis Fails to Consider The Impacts of Small Firm Size And Illiquidity on RLEC Capital Costs.

In his attached Statement, Prof. Billingsley observes that the *Staff Report* considered, but rejected, the concept of adding a risk premium based on size to the cost of equity.[102] In Prof. Billingsley's view, this contradicts exhaustive, published research by Ibbotson Associates and Duff & Phelps that documents the magnitude of small firm and illiquidity effects on stock returns and should have resulted in an upward adjustment in equity capital costs for RLECs. In specifically considering the impact of the size effect on the cost of equity capital, Prof. Billingsley cites evidence from Duff & Phelps showing that this effect can understate equity costs from a minimum of 0.42 percent for relatively large firms to a maximum of 6.72 percent for the smallest firms. Since RLECs are generally small, Prof. Billingsley estimates that the Bureau's analysis underestimates RLEC equity costs by a degree that more closely approaches the larger indicated amount.[103]

Prof. Billingsley provides Duff & Phelps-based estimates of the magnitude of the bias introduced by ignoring size effects specifically for the 16-company sample used in the *Staff Report*. While rejecting this sample because it is unrepresentative of the average RLEC's riskiness, Prof. Billingsley notes that while the *Staff Report* estimates the average cost of equity for its entire 16-company sample is 7.18 percent (6.70 percent for the RHC subsample, 7.75 percent for the mid-sized carrier subsample, and 6.90 percent for the RoR subsample of

[102] *Id.* 8, citing *Staff Report* ¶ 75.

[103] *Id.* 9-10.

companies),[104] a size-adjusted CAPM as recommended by Duff & Phelps would produce an average cost of equity for the entire sample of 12.74 percent (9.13 percent for the RHC subsample, 13.07 percent for the mid-sized carrier subsample, and 14.01 percent for the RoR subsample of companies).[105] In Prof. Billingsley's view, the Duff & Phelps data provide objective evidence that failure to adjust for the small firm effect provides significantly understated RLEC equity costs and, by implication, an understated average RLEC WACC.[106]

Prof. Billingsley also explains that size alone may not be the sole reason for such higher capital costs. Smaller firms are typically less liquid, which means that fewer of their shares trade on a given day and that they have higher bid/ask spreads. According to Prof. Billingsley, less liquid shares command lower prices, which imply higher equity capital costs.[107] This suggests that equity capital costs for most RLECs should significantly exceed those of the publicly-traded RLECs used in the *Staff Report* sample. Indeed, evidence assembled by Pratt and Niculita from a sample of hundreds of transactions over a 30-year period shows that discounts due to illiquidity range from about 40 percent to 72 percent under different market conditions, even after eliminating outliers.[108] In Prof. Billingsley's view, such discounts imply the Bureau's analysis

[104] *Staff Report* ¶ 83, App. H.

[105] In order to allow more detailed comparisons and as discussed below, note that Duff & Phelps uses a normalized risk-free rate of 4 percent in light of current unrepresentative interest rate conditions and a conservative risk premium of 5 percent. In contrast, the *Staff Report* uses a risk-free rate of only 1.92 percent (as of a single day, March 26, 2013) and a risk premium of 7.57 percent, which is higher than the long-term Ibbotson Associate's average of 6.7 percent. Note that the *Staff Report* justifies using the higher risk premium as necessary to prevent contradictory, "anomalous" results. *See id.* ¶¶ 64, 87.

[106] *Billingsley Statement* at 11.

[107] *Id.*

[108] *Id.* 12.

substantially understates equity costs for non-publicly traded RLECs over those of otherwise comparable publicly-traded firms.

E. The Staff Report Arbitrarily Incorporates Anomalous Input Values That Run Contrary to Basic Economic Principles.

Prof. Billingsley also explains in his attached statement that the Bureau's CAPM analysis produced equity costs for about one-third of the Bureau's sample that "are low compared to the cost of debt" and that these results are "anomalous", a problem the Bureau admits exists.[109] However, while the *Staff Report* attributes this to "measurement error," Prof. Billingsley points out such results should serve as a red flag that there are serious flaws in either the sample identification procedure and/or the Bureau's application of the CAPM.

> Cost of equity estimates that are lower than the associated cost of debt for a company violate the well-accepted risk/return trade-off. Equities should have higher expected returns than debt securities because equities are riskier.[110]

Rather than determine what went wrong with the sampling process or its CAPM calculations, however, the Bureau decided to adjust the results, masking the problem:

> As an approximation designed to remove this anomaly, we performed the cost of equity calculation using 7.57 percent as the lower bound of the market premium . . .[111]

In other words, the *Staff Report* acknowledges that the specific value of the equity market risk premium used in its CAPM analysis was chosen solely on the basis of the need to offset "anomalous" findings, an adjustment the Bureau admits "is not without its own problems."[112] In Prof. Billingsley's view, this practice is arbitrary, unsupported and misleading. It suggests that

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[109] *Staff Report* ¶ 84.

[110] *Billingsley Statement* at 16.

[111] *Staff Report* ¶ 87.

[112] *Id.* ¶ 88.

the risk premium was chosen not on the basis of the best empirical evidence or using firmly-based financial economic theory, but rather to compensate for internally inconsistent cost of equity and cost of debt estimates. The fact such adjustments were necessary strongly supports the Associations' view that the Commission should give the *Staff Report* little weight in considering the appropriate RoR for RLECs going forward.

IV. THE COMMISSION SHOULD RELY ON RLEC-SPECIFIC DATA TO EVALUATE THE WACC FOR RLECs, UTILIZING THE FREE CASH FLOW METHOD DESCRIBED IN PRIOR RURAL ASSOCIATION COMMENTS.

The *January 2012 Rural Association Comments* included an analysis of RLECs' cost of capital that, unlike the approaches used in the *Staff Report*, relied exclusively on RLEC-specific data rather than data assembled from proxy companies.[113] This approach estimated a market-based cost of capital for RLECs by dividing current free cash flow (FCF) by the value of the firm.[114] Firm valuation was determined by examining per-line prices paid in RLEC acquisition transactions.

Recognizing that there were a number of issues associated with using per-line prices, including possible impacts of non-regulated services, the declining numbers of acquisition transactions and differences in quality between RHC and RLEC exchange assets, the Rural Associations examined a range of prices for sales occurring between 2008 and 2011.[115] These numbers showed a steady decline in valuations over the period, with some recent sale transactions priced at only $600 per line. Since low per-line prices imply a greater cost of

[113] *See January 2012 Rural Association Comments* at 47-50.

[114] *Id.* 57.

[115] *Id.*

capital,[116] the Rural Associations opted to apply a conservative approach and analyzed FCF values using estimates of price per line ranging from $2,400 to $1,200 (leaving out low-priced recent transactions, which would tend to bias cost of capital estimates upwards).

This analysis produced median cost of capital values ranging from 11.75 percent and higher, depending on price-per-line values.[117] In the Rural Associations' view, these results reflected an objective marketplace assessment by investors of the risks associated with RLEC operations in the current marketplace and regulatory environment.[118]

The Bureau did not accept the Rural Association's estimates based on the FCF method, stating in a footnote that the Rural Associations' filing "does not provide sufficient information to allow meaningful assessment of its calculations."[119] The *Staff Report* asserts in this regard that the Rural Associations' FCF analysis was "based on unsubstantiated assumptions about the value of RLEC lines instead of demonstrated market values";[120] that it "arbitrarily reduces price-per-line data" and "relies on a non-random sample of cost companies that chose to respond to a NECA data request;"[121] and "relies on unweighted median data without providing mean data."[122]

In these comments, the Associations update and resubmit the FCF method originally filed in the *January 2012 Rural Association Comments*. The additional information provided in

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[116] A low per-line price indicates the buyer has more heavily discounted the present value of future cash flow from an investment, likely as a result of higher perceived risk. To offset this higher risk, the investor seeks a higher rate of return.

[117] *January 2012 Rural Association Comments* at 59.

[118] *Id.* 60.

[119] *Staff Report*, n.94

[120] *Id.*

[121] *Id.*

[122] *Id.*

Appendix B demonstrates that the Associations' proposed FCF method is analytically sound, as it is tied to a standard DCF practice for evaluating firms previously endorsed by the Commission and relied upon, in part, by the Bureau for its analysis.

The Associations also show that the few concerns identified by the Bureau are misplaced. First, any assumptions in the *January 2012 Rural Association Comments* regarding the relative values of RHC and RLEC lines were reasonable, but irrelevant because RHC line values have little weight in the proposed FCF analysis.[123] Moreover, the proposed FCF approach uses a statistically unbiased sample that is representative of RLECs as a group. In this respect, the FCF produces a far more accurate estimate of WACC for RLECs than methods that rely on samples of unrepresentative publicly-traded proxy companies. The application of the FCF method is also superior in that it focuses exclusively on valuation of the regulated portion of the business, rather than total company operations.

The Bureau's suggestion that the Rural Associations arbitrarily reduced per-line prices for purposes of their analysis is incorrect. In fact, the Rural Associations conservatively *excluded* low per-line price data from their analysis. Had this information been included in the analysis, resulting cost of capital estimates would be higher. Finally, while the Associations continue to believe that median calculations should be used in the analysis to prevent outliers from dominating the WACC calculation, an alternative FCF calculation based on the weighted mean is provided in Appendix B. This revised calculation continues to show that the true WACC for RLECs is well above the range identified in the *Staff Report*.

[123] Moreover, the FCF analysis displayed in Appendix B focuses on recent sales that do not involve RHCs.

V. BEFORE TAKING ANY FURTHER ACTION WITH RESPECT TO POTENTIAL PRESCRIPTION OF A NEW AUTHORIZED ROR, THE COMMISSION MUST ADOPT CLEAR RULES GOVERNING THE REPRESCRIPTION PROCESS THAT PROVIDE PARTIES WITH A FULL OPPORTUNITY FOR HEARING, AS REQUIRED BY LAW.

In its 2001 *MAG Order*,[124] the Commission noted that its Part 65 rate-of-return represcription rules were adopted before Congress enacted the Telecommunications Act of 1996 (the Act), with its myriad changes to both federal and state laws governing the telecommunications industry. Given this changed environment, the Commission found that

> it would be counterproductive to initiate a new automatic review of rate-of-return carriers' authorized rate of return at this time without a complete review of the Part 65 procedures to determine if they are appropriate and workable. Staying the effectiveness of section 65.101 will allow us to comprehensively review the Part 65 rules to ensure that decisions we make are consonant with current conditions in the marketplace.[125]

As the Rural Associations have previously pointed out, that "complete review" of the Part 65 rules has not yet occurred.[126] Yet the *Staff Report* rushes forward to apply the WACC estimation procedures set forth in the Part 65 rules as if nothing had changed. For the reasons stated in the *December 2011 Rural Association PFR* and prior comments in this proceeding, the Commission must undertake this review and promulgate new "rules of the road" prior to any potential prescription of a new authorized RoR.

As part of such a rulemaking the Commission must also establish clear procedures to govern the represcription process. As noted above, section 205(a) of the Act requires the Commission to provide a "full opportunity for hearing" prior to prescribing new rates. While the

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[124] *MAG Order*, *supra* note 7, at 3.

[125] *MAG Order*, ¶ 210

[126] *December 2011 Rural Association PFR* at 26-27; *January 2012 Rural Association Comments* at 51.

Act does not necessarily require the Commission to conduct traditional "trial-type" hearing procedures, RoR represcription proceedings are "adversarial in nature and depend upon a thorough fact-based inquiry that develops a great amount of probative evidence."[127]

The Associations recognize that, as part of its Order initiating this proceeding, the Commission waived several Part 65 rules governing service of process and other outdated procedural requirements.[128] This waiver purported to include section 65.103 of the rules, which provides for detailed presentation, testing and consideration of evidence relating to rate prescription issues in the form of direct cases, replies and rebuttal testimony. The *USF/ICC Order* did not, however, specify alternative procedures to govern the represcription process.

The Rural Associations pointed out that the Commission's failure to specify detailed methods for gathering and examination of factual evidence constitutes legal procedural error and would likely leave a rate prescription order open to reversal by an appellate court.[129] If the procedures outlined in section 65.103 of the Commission's rules are not to be used, the Commission must specify what other process will be followed to assure that parties are provided with a rigorous, adjudicative, adversarial fact-finding hearing as required under section 205(a) of the Act and the APA. Put another way, waiver of its rules does not permit the Commission to ignore substantive and procedural requirements contained in applicable statutes.

Like the Commission's 2011 *USF/ICC Order*, the *Staff Report* does not address or make recommendations regarding the process to be used to assure compliance with section 205(a)'s

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[127] *USF/ICC Order* ¶¶ 641-642. *See also Authorized Rates of Return for the Interstate Services of AT&T Communications and Exchange Telephone Carriers*, Report and Order, 59 Rad. Reg. 2d (P&F) 651 (1985); *1995 Represcription Order* ¶ 51.

[128] *USF/ICC Order* ¶ 645.

[129] *December 2011 Rural Association PFR* at 27.

hearing requirements. It should be clear, however, that by simply issuing the *Staff Report* and requesting comment thereon, the Commission has not provided parties with a "full opportunity for hearing" as required by the Act. Prior rate prescription hearings have often involved multiple submissions from parties, giving each side a fair chance to address and rebut proffered facts and arguments.[130] Additionally, parties have been given reasonable access to discovery (mainly interrogatories and document requests), either directly or as part of a required filing.[131] None of these procedural safeguards is present in the context of the *Staff Report.*[132]

Certainly, the Commission cannot rely on the limited opportunity provided by the *Public Notice* to comment on the *Staff Report* as providing the "full opportunity for hearing" mandated by section 205 of the Act. Even without considering the substantive defects described above, this procedural error will render arbitrary and capricious any decision made by the Commission

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[130] *See e.g.*, *Refinement of Procedures and Methodologies for Represcribing Interstate Rates of Return for AT&T Communications and Local Exchange Carriers*, CC Docket No. 87-463, Notice of Proposed Rulemaking, 2 FCC Rcd. 6491 (1987); *Amendment of Parts 65 and 69 of the Commission's Rules to Reform the Interstate Rate of Return Represcription and Enforcement Processes*, CC Docket No. 92-133, Notice of Proposed Rulemaking and Order, 7 FCC Rcd 4688 (1992); *Regulatory Reform for Local Exchange Carriers Subject to Rate of Return Regulation*, CC Docket No. 92-135, Notice of Proposed Rulemaking, 7 FCC Rcd. 5023 (1992); *Common Carrier Bureau Sets Pleading Schedule in Preliminary Rate of Return Inquiry*, AAD 96-28, Public Notice, 11 FCC Rcd. 3651 (1996).

[131] The Commission has, on limited occasions, used "pure" notice and comment procedures to prescribe rates and tariff regulations. But these instances have typically involved policy matters requiring determination of legislative facts, as opposed to adjudicative facts. For example, the Commission used informal notice and comment procedures to prescribe tariff regulations that permitted the resale of interstate private lines (*AT&T v. FCC*, 572 F.2d 17 (2nd Cir. 1978)) and the establishment of ceilings for subscriber line charges (SLC) (*Access Charge Reform*, CC Docket No. 96-262, First Report & Order, 12 FCC Rcd. 15982 (1997) ¶¶ 75-87, *aff'd Southwestern Bell Tel. Co. v. FCC*, 153 F.3d 523 (8th Cir. 1998)). Such examples do not support abandonment of adversarial procedures in a RoR represcription hearing.

[132] For example, interested parties might seek access to detailed descriptions and explanations as to how the DCF model was implemented by the Bureau, and propound questions regarding specific steps or assumptions used. Parties might also reasonably request access to underlying data in spreadsheet form so as to facilitate replication of results.

to revise the authorized RoR based on the present record.

Reliance on simple notice and comment opportunities regarding the *Staff Report* would also be inconsistent with prior Commission determinations that additional procedural safeguards are key to better serving the public interest. For example, in its 1995 decision reforming its Part 65 Rules, the Commission concluded:

> Based on our review of the record, we conclude that the public interest would be better served by streamlining our existing paper hearing procedures, than by adopting the simpler notice and comment regime that we proposed in the Notice. … Although almost all parties to this proceeding support some form of simplification, they emphasize that represcription proceedings are adversarial in nature and depend upon a thorough fact-based inquiry that develops a great amount of probative evidence. In recognition of this, even the parties who support simpler notice and comment procedures urge us to continue to promulgate rules that allow for, among other procedures, rebuttal pleadings and significant discovery, including interrogatories.[133]

The Commission's *USF/ICC Order* failed to acknowledge this earlier decision or provide any explanation as to why existing rules governing presentation of substantive evidence should be changed.

As part of any new rules intended to govern the represcription process, the Commission must specify who bears the burden to demonstrate the existing RoR is unjust and unreasonable and what level of new return on investment would be just and reasonable.[134]

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[133] *1995 Represcription Order* ¶ 51.

[134] See generally *January 2012 Rural Association Comments* at 61-63. Under Commission precedent, any entity favoring a lower RoR (including Commission staff) must provide sufficient evidence and establish on the record that their proffered RoR is just and reasonable under section 205(a) of the Act. For example, in a case where AT&T filed tariff revisions proposing a higher RoR and higher prices for interstate calls, the Commission assigned AT&T the burden of going forward with the evidence supporting such changes and the burden of persuasion, in accordance with section 204(a)(1) of the Act. *AT&T Co. Charges for Domestic Telephone Service,* Memorandum Opinion & Order, 27 FCC 2d 151 (1971) ¶ 24. *See also, American Television Relay, Inc. Refunds Resulting from the Findings and Conclusions in Docket 19609,* Memorandum Opinion & Order, 67 FCC 2d 703 (1978) ¶ 10; *800 Data Base Access Tariffs and*

Finally, the Commission should observe the normal 60-60-21-day time frames for adversarial filings set forth in section 65.103 of its rules.[135] This is critical for RLECs with limited resources to develop the data needed to prepare direct cases, to obtain the services of qualified experts to analyze this data, and to respond fully to adversarial filings.

VI. CONCLUSION

The Commission must make substantial modifications to methodologies used to develop the Bureau's *Staff Report* before it seeks to represcribe the authorized RoR for RLECs. As shown above and in the attached statement of Prof. Randall Billingsley, the initial approach taken by the Bureau relies on an unrepresentative sample of companies and fails to recognize circumstances faced by small rural telecommunications companies in today's marketplace and regulatory environment. Results produced by the Staff's methodology for RLECs appear obviously counterintuitive when compared with results produced for the much larger and less risky RHCs.

The Commission should instead use the FCF method described briefly in prior Rural Association comments and more fully in the attached Appendix B. This approach utilizes data

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the 800 Service Management System Tariff, Order Designating Issues for Investigation, 8 FCC Rcd. 5132 (1993) ¶ 44. Even when rate increases are not sought, a carrier seeking a "rule or order from the Commission approving or prescribing a [new] charge, regulation, classification or practice the carrier would have the burden of proof." *Amendment of Part 61 of the Commission's Rules Relating to Tariffs and Part 1 of the Commission's Rules Relating to Evidence,* Memorandum Opinion & Order, 40 FCC 2d 149 (1973) ¶ 9. This result is consistent with ratemaking decisions of other federal agencies such as the Federal Energy Regulatory Commission ("FERC"). *See, e.g., Kern River Gas Transmission Company*, Initial Decision, Docket No. RP04-274-023, *slip op.*, at 46 (FERC, Apr. 12, 2011). *See also, Colo. Interstate Gas Co. v. FERC,* 791 F.2d 803, 807 (10th Cir. 1986), *cert. denied*, 479 U.S. 1043 (1987); *Tenn. Gas Pipeline Co.,* 94 FERC ¶ 61,117, at 61,447 (2001); *Southern Company Services, Inc.,* Opinion & Order on Initial Decision, Docket Nos. EL91-29-000 and EL94-85-000, *slip op.* at 1, (1998). *Association of Oil Pipe Lines v. FERC,* 83 F.3d 1424, 1431 (D.C. Cir. 1996).

[135] *December 2011 Rural Association PFR* at 29.

from RLECs themselves, and accurately portrays the WACC for these companies based on actual marketplace data.

Finally, before going any further, the Commission must clarify the procedures it intends to follow in any proceeding to revise the authorized RoR. As previously shown by the Rural Associations, the Commission cannot lawfully represcribe the authorized RoR based on informal comments, but must instead provide parties with a full opportunity for hearing, as required by section 205(a) of the Act. While this need not include trial-type hearings, at a minimum parties must have the opportunity to present evidence in full and obtain discovery regarding other parties' presentations.

Respectfully submitted,

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July 25, 2013

Appendix A:

Professor Randall Billingsley Statement:
In Re: Wireline Competition Bureau Rate of Return, Represcription Staff Report, DA 13-1110, May 16, 2013

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, DC 20544

In the Matter of	)	
	)	
	)	
Connect America Fund	)	**WT Docket No. 10-90**
	)	
	)	

STATEMENT

of

DR. RANDALL S. BILLINGSLEY, FRM, CRRA, CFA

July 25, 2013

STATEMENT OF RANDALL S. BILLINGSLEY

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BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, DC 20544

In the Matter of	)	
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	)	
Connect America Fund	)	**WT Docket No. 10-90**
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STATEMENT OF RANDALL S. BILLINGSLEY[1]

I. PURPOSE AND SUMMARY OF STATEMENT

The purpose of this Statement is to critically evaluate the report issued by the Wireline Competition Bureau[2] of the Federal Communications Commission (FCC or Commission) concerning the data and methods to be used in potentially represcribing the authorized interstate rate of return (RoR) for rate of return-regulated rural local exchange carriers (RLECs)[3]. I explain that the *Staff Report's* recommended reasonable range for the RLEC authorized RoR of only 8.06 percent to 8.72 percent is unrealistically low, unreliable, and

[1] Details on my qualifications may be found in Billingsley Exhibit No. RSB-1. This statement presents my independent professional opinions and is not presented by me as a representative of Virginia Polytechnic Institute and State University.

[2] Wireline Competition Bureau, *Prescribing the Authorized Rate of Return: Analysis of Methods for Establishing Just and Reasonable Rates for Local Exchange Carriers*, Staff Report, WC Docket No. 10-90, (released May 16, 2013)(*Staff Report*).

[3] Federal Communications Commission, Public Notice, "Wireline Competition Bureau Seeks Comment on Rate of Return Represcription Staff Report," DA 13-1110, May 16, 2013.

results from depending on unrepresentative data and errors in applying commonly-used methodologies.[4] My recommendation is to defer estimating the authorized rate of return until the Commission can develop an approach that addresses several estimation issues:

- A representative sample of RLECs
- Methods applicable to small, non-traded, regulated RLECs
- A representative time period for conducting the analysis

In brief summary, the errors and inconsistencies in the *Staff Report* discussed in my statement that support my recommendation to the Commission include:

- Reliance on an unrepresentative sample of telecommunications firms that are *assumed* rather than *demonstrated* to be comparable to the average RLEC. The RLECs themselves should be used as much as possible as a direct sample.[5]
- Use of arbitrary sample selection criteria.
- Inclusion of financially distressed firms within the sample.
- Failure to consider the material, well-documented effects of small firm size and illiquidity on RLEC capital costs, which biases the *Staff Report's* estimates downward.
- An inconsistent relationship among the *Staff Report's* recommended weighted average cost of capital (WACC) estimates for its sample of publicly-traded RLECs, publicly-traded mid-sized carriers, and selected regional Bell holding companies

[4] *Staff Report*, p. i.

[5] The Rural Associations have previously provided the Commission with free cash flow (FCF)-based cost of capital evidence based exclusively on a relatively large sample of RLECs. See *Initial Comments of NECA, NTCA, OPASTCO, and WTA*, WC Docket No. 10-90, *et al*., at 57-60 (filed January 18, 2012).

(RHCs). The *Staff Report* assumes rather than proves that the RHCs are riskier than the average RLEC, which is counter-intuitive.

- Inclusion of admittedly anomalous input values that contradict well-accepted risk/return trade-off principle. While this is attributed to "measurement error," I explain below that this is compelling evidence that there are serious flaws in either the *Staff Report's* sample identification procedure and/or in the application of its cost of capital estimation approaches. Further, the specific value of the equity market risk premium used is apparently chosen solely on the basis of the need to offset the above-noted anomalous cost of capital estimates. This practice is arbitrary, unsupported, and misleading.
- Reliance on a sample of regulated companies that violates the *Staff Report's* stated concerns about circularity. The process employed in the *Staff Report* should have avoided the circularity trap by identifying a sample of *unregulated* firms that are demonstrably comparable in risk to the average RLEC using objective, well-accepted financial data.[6]
- Use of an artificially low risk-free rate of return in applying the capital asset pricing model (CAPM). Treasury bond rates are depressed to levels not seen for decades due to unprecedented Fed intervention in the wake of the financial crisis. By definition, current rates are unrepresentative and a normalized rate should be used. Further, the implicit assumption that capital costs must have fallen along with the current general

[6] This was provided in previously-filed RLEC cost of capital analysis in this proceeding. See *January 2012 Association Comments*, Appendix C, Professor Randall Billingsley Statement: In Re: Interstate Rate of Return Represcription Report and Order of Further Notice of Proposed Rulemaking, FCC 11-161, November 18, 2011.

level of interest rates is incorrect. There is reason to believe that the more competitive environment faced by RLECs has increased these companies' riskiness. The *Staff Report's* use of an artificially low risk-free rate of return understates forward-looking equity capital costs for RLECs.

The remainder of my statement elaborates on the above observations concerning the *Staff Report*.

II. THE *STAFF REPORT'S* SAMPLE IS UNREPRESENTATIVE OF THE AVERAGE RLEC

A. THE *STAFF REPORT'S* SAMPLE SELECTION CRITERIA ARE ARBITRARY

An objective sampling method is clearly needed because the sample selection criteria used in the *Staff Report* are arbitrary. For example, the sample is limited to companies with at least 10 percent of operations associated with price-regulated interstate telecommunications services.[7] Yet no justification is offered for why 10 percent is the appropriate threshold for including a firm in the sample. Nor is any insight provided into the effect, if any, on the composition of the sample if this arbitrary threshold is changed.

In another example of the arbitrary sample selection criteria, the *Staff Report* notes that the Commission assumes that "the RHCs are involved in activities which are perceived as riskier than their regulated telephone business."[8] Yet the *Staff Report* includes the RHCs in its sample based on the following rationale:

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[7] *Staff Report*, p. 6, ¶12.

[8] *Staff Report*, footnote 45.

> The RHC Proxy companies have frequently-traded equity and numerous analysts' growth estimates, making their financial data highly reliable for purposes of our CAPM and DCF analysis, but with their more urban service areas and price-cap or price-flexibility regulation, have operations least similar to those of rate-of-return carriers.[9]

The *Staff Report* consequently admits that firms have been included in the sample that are not comparable to the RLECs based on the criterion that having more reliable data is apparently more important than using data that are relevant to the task at hand. It is particularly ironic that the *Staff Report* asserts that the RHCs' "frequently-traded equity" makes their data more reliable when only a handful of RLECs have market-traded equity. This in fact makes RHCs vastly different from the average RLEC.

The *Staff Report's* approach also recognizes significant differences between RLECs and it sample of mid-sized incumbent local exchange carriers in noting that:

> [T]hese carriers are primarily subject to price cap regulation rather than rate-of-return regulation, and are much larger than most RLECs, and therefore are still an imperfect proxy group. In addition, these companies in general have a large share of debt in their capital structures, low times-interest-earned ratios, and non-investment-grade debt ratings and thus are less than ideal for estimating the cost of capital for providers with lower, often subsidized, debt.[10]

Thus, the *Staff Report* once again arbitrarily includes firms in its sample that are admitted to not be comparable to the average RLEC.

The *Staff Report* attempts to overcome this problem, in part, by including a small

[9] *Staff Report*, p. 10, ¶25

[10] *Staff Report*, p. 9, ¶22.

group of publicly-traded RLECs.[11] However, this does not render the overall sample sufficiently comparable to the average RLEC. The *Staff Report's* RLEC sample is composed of publicly-traded companies and the average RLEC is not publicly-traded. The sample is consequently not representative of the average RLEC. And, as discussed below, the market exacts a substantial penalty for the lack of marketability and liquidity common to firms like the average RLEC. This penalty has the effect of increasing capital costs. It is critically important that the Commission recognize the need to adjust capital costs upward to adequately reflect the impact of RLECs not having publicly-traded equity.

The *Staff Report* does not identify a sample of companies that are demonstrably comparable to the average RLEC. There is, however, a straightforward solution. A sample should be identified using the actual RLECs as much as possible.

B. THE *STAFF REPORT'S* SAMPLE OF REGULATED COMPANIES VIOLATES ADMITTED CONCERNS ABOUT CIRCULARITY

The *Staff Report* acknowledges that:

> Using market values, however, presents a regulatory difficulty: market forces determine the value of a firm's debt and equity based on expectation of that firm's earning capacity, which is exactly what the regulator is trying to control in setting a regulated rate of return. This introduces circularity in the reasoning.[12]

This implies that a sample of *unregulated* firms matched on risk measures to the RLECs would provide valuable evidence that does not fall victim to the circularity dilemma. Notwithstanding this admission, the analysis in the *Staff Report* relies on a sample of

[11] *Staff Report,* p. 10, ¶ 23.

[12] *Staff Report*, Appendix C, ¶11.

regulated firms that are affected by such circularity. In contrast, a sample of unregulated firms that are demonstrably comparable in risk to the average RLEC using objective, well-accepted financial data, should have been identified.[13]

C. THE REPRESENTATIVENESS OF THE *STAFF REPORT'S* SAMPLE IS MARRED BY THE PRESENCE OF FINANCIALLY DISTRESSED FIRMS

The representativeness of the sample used in the *Staff Report* is also marred by the presence of numerous financially distressed firms. A prominent example is that FairPoint was in bankruptcy during the sample period.[14] More importantly, numerous firms in the sample had losses and negative book values during the five year sample time period. Specifically, seven of the sixteen firms (about 44%) suffered losses during the five year sample time period (Alaska Communications Systems Group, Alteva, Cincinnati Bell, FairPoint Communications, Frontier Communications, Hawaiian Telecom, and Lumos Networks) and four of the firms (25%) had negative book values during this period (Alaska Communications Systems Group, Cincinnati Bell, FairPoint Communications, and Hawaiian Telecom). The *Staff Report* provides no evidence that the average RLEC experienced comparable losses or negative book values during the five year sample period.

Financially distressed firms that are clearly unrepresentative of steady-state conditions in general or the average RLEC in particular were not removed from the *Staff Report's* sample. The use of such firms renders the associated cost of capital

[13] A sample of firms not subject to the circularity effect was provided previously to the Commission in this proceeding. See *January 2012 Association Comments*, Appendix C, Professor Randall Billingsley Statement: In Re: Interstate Rate of Return Represcription Report and Order of Further Notice of Proposed Rulemaking, FCC 11-161, November 18, 2011.

[14] *Staff Report*, p. 16, footnote 75.

estimates unreliable.

III. FAILURE TO CONSIDER THE EFFECTS OF SMALL FIRM SIZE AND ILLIQUIDITY ON CAPITAL COSTS

A. EFFECT OF SMALL FIRM SIZE ON CAPITAL COSTS

The *Staff Report* considers but rejects "adding a risk premium based on size to the cost of equity."[15] The only support offered for rejecting this step is a citation to an unpublished working paper that provides a literature review of the size effect.[16]

While questioning the impact of the size effect over various sub-periods, the cited paper nonetheless observes that "[e]mpirical research shows that, over long time horizons, firm size has been a factor in explaining returns on listed stocks".[17] The paper also observes that the size effect may be a proxy for the underlying liquidity risk of firms. This is significant in the context of the current FCC proceeding because the average RLEC would be considered both relatively small and illiquid. Thus, ignoring the small firm and illiquidity effects significantly understates the estimates of RLEC equity capital costs presented in the *Staff Report*.

Exhaustive, published research by Ibbotson Associates and Duff & Phelps documents the magnitude of the small firm effect on stock returns and recommends

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[15] *Staff Report*, p. 28, ¶75.

[16] As indicated in footnote 138 on page 28 of the *Staff Report*, the working paper citation is: Crain, Michael A., *A Literature Review of the Size Effect* (October 29, 2011), *available at* SSRN: http://ssrn.com/abstract=1710076 (last visited Apr. 16, 2013) or http://dx.doi.org/10.2139/ssrn.1710076 (last visited Apr. 16, 2013).

[17] Crain, p. 21.

how practitioners should adjust equity capital costs upward accordingly.[18] Both companies provide evidence that the relative performance of small vs. large capitalization (cap) stocks does indeed vary over time. Interestingly, Duff & Phelps' research examines all 10-year periods on a monthly basis between 1982 and 2012. Their research reveals that small-cap stocks outperformed large-cap stocks 54 percent of the time.[19] And the same study finds that small-cap stocks significantly outperformed large cap stock between 2000 and 2012. This evidence contradicts the opinion expressed in the unpublished working paper cited in the *Staff Report* that the small firm effect has disappeared in recent years. Ibbotson Associates also presents evidence that the above-noted pattern between small-cap and large-cap stock returns is common over time.[20]

While both Duff & Phelps and Ibbotson Associates support the continued general relevance of the size effect in estimating the cost of equity capital, it is important to specifically consider how much of an effect the appropriate adjustment would have on the *Staff Report's* estimates of RLEC equity capital costs. Using alternate measures of firm size beyond just traditional market-cap and considering time periods of various lengths between 1963 and 2012, Duff & Phelps estimates average size premiums of

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[18] See *2013 Ibbotson® Stocks, Bonds, Bills, and Inflation Valuation Yearbook®*, Morningstar, Inc., and *2013 Duff & Phelps Risk Premium Report*, Duff & Phelps, LLC.

[19] *2013 Duff & Phelps Risk Premium Report*, Duff & Phelps, LLC, pp. 33-34. Note that the study examines a total of 253 120-month periods between 1982 and 2012.

[20] *2013 Ibbotson® Stocks, Bonds, Bills, and Inflation Valuation Yearbook®*, Morningstar, Inc., chapter 7, pp. 85-108.

0.42 percent for the largest companies and 6.73% for the smallest companies.[21] In other words, other things being equal, the *Staff Report's* CAPM estimates understate RLEC equity capital costs from a minimum of 0.42 percent to a maximum of 6.72%. And RLECs are generally small, which implies that the Staff underestimates RLEC equity costs by a degree that more closely approaches the larger indicated amount.

The magnitude of the bias introduced by the ignoring the size effect may be illustrated more specifically for the 16-company sample used in the *Staff Report*. While rejecting this sample because it is unrepresentative of the average RLEC's riskiness, it is nonetheless instructive to compare the *Staff Report's* estimates with CAPM results that capture the size effect. Using the CAPM, the *Staff Report* estimates that the average cost of equity for its entire 16-company sample is 7.18 percent, 6.70 percent for the RHC subsample, 7.75% for the mid-sized carrier subsample, and 6.90 percent for the RoR subsample of companies.[22] In contrast, the approach to applying the firm size-adjusted CAPM recommended by Duff & Phelps produces an average cost of equity for the entire *Staff Report* company sample of 12.74 percent, 9.13 percent for the RHC subsample, 13.07% for the mid-sized carrier subsample, and 14.01 percent for the RoR subsample of companies.[23] Thus, the *Staff Report* produces RLEC cost of

[21] *2013 Duff & Phelps Risk Premium Report*, p. 37.

[22] *Staff Report*, p. 30, ¶83 and Appendix H.

[23] In order to allow more detailed comparisons and as discussed below, note that Duff & Phelps uses a normalized risk-free rate of 4 percent in light of current unrepresentative interest rate conditions and a conservative risk premium of 5 percent. In contrast, the *Staff Report* uses a risk-free rate of only 1.92 percent (as of a single day, March 26, 2013) and a risk premium of 7.57 percent, which is higher than the long-term Ibbotson Associate's average of 6.7 percent. Note that the *Staff Report* justifies using the higher risk premium as necessary to prevent contradictory, "anomalous" results. See *Staff Report*, p. 25, ¶64 and p. 32, ¶ 87.

equity results that compare with professional Duff & Phelps estimates by the following amounts: 5.56 percent lower for the entire sample, 2.43 percent lower for the RHC subsample, 5.32 percent lower for the mid-sized carrier subsample, and 7.11 percent lower for the RoR subsample. Consistent with the empirical evidence on the size effect, the *Staff Report* underestimates the equity costs of the smallest firms the most, which are the RoR firms that are the most comparable subsample to the average RLEC. The data used to generate the Duff & Phelps estimates are available by subscription and are relied on by investment professionals. Duff & Phelps consequently provide objective evidence that the *Staff Report's* failure to adjust for the small firm effect provides significantly understated RLEC equity costs and, by implication, an understated average RLEC WACC.

B. EFFECT OF ILLIQUIDITY ON CAPITAL COSTS

While there is compelling evidence that firm size is inversely related to capital costs, size alone may not be the sole reason for such higher capital costs. Smaller firms are typically less liquid, which means that fewer of their shares trade on a given day and that they have higher bid/ask spreads. Evidence indicates that less liquid shares command lower prices, which implies higher equity capital costs.[24] It appears that there is a liquidity discount that is reflected in capital costs that is not captured in the size premium. RLECs are typically not publicly-traded, which make them extremely illiquid. Their equity capital costs should consequently significantly exceed those of the

[24] For example, see Roger G. Ibbotson, Zhiwu Chen, Daniel Y.-J. Kim, and Wendy Y. Hu, "Liquidity as an Investment Style," *Financial Analysts Journal*, Vol. 69, No. 3, 2013, pp. 30-44.

publicly-traded RLECs used in the *Staff Report* sample of firms.

Consider the extensive evidence cited in Pratt and Niculita's book on valuing a business.[25] They explain that it is common for equity values to be substantially discounted for the illiquidity and/or lack of marketability that characterize private, non-publicly-traded companies. Pratt and Niculita discuss two types of evidence on marketability discounts. The first looks at data on restricted stocks, which are public company stocks that are restricted from trading on the open market for a specific period of time. The difference in the prices of restricted and otherwise comparable publicly-traded stocks provides an estimate of the value discount resulting from limited marketability. Pratt and Niculita cite studies that find the average price discount associated with restricted stocks to be between 13 percent and 45 percent.[26] The second approach studies the relationship between the prices at which companies were initially offered to the public (IPO prices) and the prices at which the latest private transactions occurred in the months prior to the given IPO. Pratt and Niculita find that a sample of hundreds of such transactions over a 30-year period exhibits discounts from about 40 percent to 72 percent under different market conditions even after eliminating outliers.[27] Such discounts imply a significant increase in equity costs over those of otherwise comparable publicly-traded firms. Thus, the magnitude

[25] Pratt, Shannon P., and Niculita, Alina V. *Valuing a Business: The Analysis and Appraisal of Closely Held Companies* (New York: McGraw-Hill, 2008, 5th edition).

[26] Pratt and Niculita, p. 431.

[27] Pratt and Niculita, p. 438.

of the valuation discount for the lack of marketability provides another perspective on why the RLECs should have a risk premium added to their equity costs beyond that indicated by the CAPM. The *Staff Report's* failure to consider a lack of marketability/liquidity risk premium implicitly argues that the average RLEC is fully marketable and liquid even though most of them are private and therefore are *not publicly-traded*. The *Staff Report* consequently significantly underestimates RLEC equity costs.

For an additional perspective on how much the *Staff Report's* RLEC equity costs are understated because they implicitly assume that RLECs are liquid publicly-traded stocks, consider Ibbotson Associates' evidence on the relationship between liquidity and stock returns. From 1972 to 2012 a broad sample of stocks traded on the NYSE, NYSE Amex, and NASDAQ shows that higher returns are associated with less liquid stocks. Indeed, the (arithmetic) average return on the least liquid stocks was 16.58 percent while the average return on the most liquid stocks was only 11.15 percent, for a difference of 5.43 percent.[28] Liquidity premiums are not the same as size premiums and liquidity seems to have an even stronger effect on stock returns than size.

Given that RLECs are largely not publicly-traded, they are by definition illiquid and deserving of a liquidity premium. The above Ibbotson evidence consequently provides a sense of just how much the *Staff Report* understates RLEC equity costs and the associated WACC.

[28] *2013 Ibbotson® Stocks, Bonds, Bills, and Inflation Valuation Yearbook®*, Morningstar, Inc., pp. 105-106.

IV. THE *STAFF REPORT* USES AN ARTIFICIALLY LOW RISK-FREE RATE OF RETURN IN APPLYING THE CAPITAL ASSET PRICING MODEL (CAPM)

As noted above, in its CAPM analysis the *Staff Report* uses a risk-free 10-year Treasury bond (spot) rate of only 1.92 percent, which was selected as of a single day, March 26, 2013. The CAPM should be specified to reflect the forward-looking perspective of an investor. However, it is almost universally agreed that Treasury bond rates are currently artificially depressed to levels not seen for decades due to unprecedented Fed intervention in the wake of the financial crisis. Thus, the *Staff Report* relies on a single recent day's Treasury bond rate that is unrepresentative and, by definition, not forward-looking.

Valuation professionals recognize the pitfalls of using current unrepresentative, historically low returns that are symptomatic of the financial market crisis of 2008 and the market's continuing volatility. For example, Duff & Phelps recommends the use of a normalized 20-year yield on Treasury bonds of 4 percent.[29] The *Staff Report's* use of a spot risk-free rate proxy of only 1.92 percent as of a single recent day is not representative of steady-state financial market conditions, is not forward-looking, and contributes to its underestimation of RLEC equity costs using the CAPM.

In its 2011 *USF/ICC Order* the FCC took the position that the current interstate authorized RoR of 11.25 percent was too high on the basis of a review of 10-year Treasury

[29] "Client Alert: Duff & Phelps Decreases U.S. Risk Premium Recommendation to 5.0%, Effective February 28, 2013," Duff & Phelps, LLC, March 20, 2013, pp. 4 and 9-21.

bond rates.[30] The FCC apparently believes that all capital costs must fall in tandem with the level of interest rates. Yet this is incorrect. Decreases in interest rates do not necessarily imply an equivalent decrease in the overall cost of capital. There is evidence that the equity risk premium is related inversely to the returns on low risk benchmark debt securities.[31] Thus, when interest rates decline, the equity risk premium widens and when interest rates rise, the equity risk premium narrows. Equity costs and interest rates consequently do not move perfectly in tandem, and equity costs fall less than interest rates in a declining environment. It is consequently important not to *assume* that the authorized RoR must have fallen because the general level of interest rates has fallen so low of late because of the financial crisis. Objective empirical analysis is required to determine if changes in risk have more than offset the effect of lower interest rates on equity capital costs in general and RLEC equity capital costs in particular. Given the greater risks faced by RLECs in the current competitive landscape, there is reason to believe that their capital costs have increased on net.[32]

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[30] See *Connect America Fund*, WC Docket No. 10-90, *A National Broadband Plan for Our Future*, GN Docket No. 09-51, *Establishing Just and Reasonable Rates for Local Exchange Carriers*, WC Docket No. 07-135, *High-Cost Universal Service Support*, WC Docket No. 05-337, *Developing an Unified Intercarrier Compensation Regime*, CC Docket No. 01-92, *Federal-State Joint Board on Universal Service*, CC Docket No. 96- 45, *Lifeline and Link-Up*, WC Docket No. 03-109, Notice of Proposed Rulemaking and Further Notice of Proposed Rulemaking, 26 FCC Rcd. 4554 (2011) ¶¶ 636-640.

[31] For example, see R. S. Harris and F. C. Marston, "Estimating Shareholder Risk Premia Using Analysts' Growth Forecasts," *Financial Management*, 1992, pp. 63-70. Specifically, their study finds evidence that the equity market risk premium is expected to change an average of -0.651 of changes in the level of long-term Treasury bond yields. More recent work by Harris and Marsden also finds the same inverse relationship between expected risk premiums and interest rates ("The Market Risk Premium: Expectational Estimates Using Analysts Forecasts," *Journal of Applied Finance*, 2001, pp. 6-16).

[32] My previously filed statement in this proceeding provides evidence that RLEC capital costs have not changed sufficiently to justify the Commission represcribing an authorized RoR below the current 11.25 percent rate. See *January 2012 Association Comments*, Appendix C, Professor Randall Billingsley Statement: In Re: Interstate Rate of

V. THE STAFF REPORT ARBITRARILY AND SELECTIVELY LIMITS CHOSEN INPUT VALUES AND CONTRADICTS THE WELL-ACCEPTED RISK/RETURN TRADE-OFF PRINCIPLE

The *Staff Report* admits that its CAPM results "are low compared to the cost of debt" and that this result is "anomalous."[33] This counter-intuitive situation is found for about one-third of the Staff's overall sample. While the *Staff Report* attributes this anomalous result to "measurement error," it serves as a red flag that there are serious flaws in either the sample identification procedure and/or the application of the CAPM. Cost of equity estimates that are lower than the associated cost of debt for a company violate the well-accepted risk/return trade-off. Equities should have higher expected returns than debt securities because equities are riskier.

Consider the *Staff Report's* explanation of the anomalous relationship between the provided debt and equity cost estimates:

> Any equity premium less than 7.57 percent results in a cost of equity that is less than the cost of debt for some of our firms, which violates a fundamental precept of economics, strongly implying error in our estimates *(footnote omitted).* As an approximation designed to remove this anomaly, we performed the cost of equity calculation using 7.57 percent as the lower bound of the market premium …[34]

Thus, the *Staff Report* acknowledges that the specific value of the equity market risk premium used in its CAPM analysis is chosen solely on the basis of the need to offset the above-noted anomalous findings. Indeed, the *Staff Report* cautions that "[t]his adjustment

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Return Represcription Report and Order of Further Notice of Proposed Rulemaking, FCC 11-161, November 18, 2011.

[33] *Staff Report*, p. 30, ¶84.

[34] *Staff Report*, pp. 31-32, ¶87.

is not without its own problems" because it introduces other biases that might not be offsetting.[35] Thus, the risk premium was not chosen on the basis of the best empirical evidence and was not informed by an understanding of firmly-based financial economic theory. In contrast, it was chosen only to compensate for internally inconsistent cost of equity and cost of debt estimates. This practice is arbitrary, unsupported, and misleading. It renders the *Staff Report's* associated cost of capital recommendations unreliable.

VI. THE STAFF REPORT'S COST OF CAPITAL RESULTS DEFY COMMON SENSE

As previously noted, the *Staff Report* accepts the unsubstantiated assumption that the RHCs are perceived to operate in riskier businesses than RLECs.[36] The report consequently argues that an RHC's cost of equity should be higher than an RLEC's. Indeed, the *Staff Report* presents a RLEC WACC range of 6.78 percent to 8.10 percent and a RHC WACC range of 7.35 percent to 9.13 percent.[37]

This begs common sense: which is riskier, a pure landline, small rural telecommunications company or a broadly diversified, large telecommunications firm with extensive wireless holdings? Which would you be more comfortable investing in and how would you adjust your return requirements in light of your intuition? More specifically, would you be comfortable investing in an RLEC that offered you about a one percent *lower* expected return than an RHC like Verizon or AT&T? Few investors would likely invest in RLECs in such circumstances. The *Staff Report's* cost of capital estimates

[35] *Staff Report*, p. 32, ¶88.

[36] *Staff Report*, p. 8, footnote 45.

[37] *Staff Report*, Appendix K.

defy financial common sense, which shows that its overall recommendations to the Commission are unreliable.

VII. CONCLUSION

The *Staff Report's* recommended reasonable range for the RLEC authorized RoR of only 8.06 percent to 8.72 percent is unrealistically low, unreliable, and results from depending on unrepresentative data and errors in applying commonly-used methodologies. One of the greatest limitations of the *Staff Report* is that it relies on an unrepresentative sample of telecommunications firms that are *assumed* rather than *demonstrated* to be comparable to the average RLEC. The RLECs themselves should be used as much as possible as a direct sample. At a minimum, their characteristics should be explicitly matched with a sample of firms *demonstrated* rather than *assumed* to be comparable to the average RLEC.

Of extraordinary significance is also that the *Staff Report* does not consider the material, well-documented effects of small firm size and illiquidity on RLEC capital costs, which biases its estimates downward. It is apparent that the *Staff Report* does not consider that the average RLEC is not publicly-traded and is consequently relatively small and illiquid, which indicates the need for additional risk premiums to be reflected in capital costs.

The *Staff Report* would have us be comfortable investing in an RLEC that offered about a one percent *lower* expected return than an RHC like Verizon or AT&T. This defies financial common sense. Few investors would likely invest in RLECs in such circumstances and the Commission's acceptance of the *Staff Report's* cost of capital recommendations

will likely deprive the RLECs of the ability to attract the capital needed to stimulate continued and additional investment in broadband. It is particularly telling that the *Staff Report* arbitrarily and selectively limits chosen input values and contradicts the well-accepted risk/return trade-off principle in applying its cost of capital methods. The *Staff Report's* admittedly anomalous findings and the numerous shortcomings discussed in my comments suggest that the Commission should leave the authorized RoR at or above its current level of 11.25 percent pending development of new sampling and methodological approaches that can accurately determine the cost of capital for RLECs.

Appendix A -Attachment 1

Randall S. Billingsley Resume

RANDALL S. BILLINGSLEY

July 2013

UNIVERSITY ADDRESS

Department of Finance (0221)
Pamplin Hall 1016
Virginia Tech
880 West Campus Drive
Blacksburg, VA 24061
Phone: (540) 231-7374
E-mail: r.billingsley@vt.edu

APPOINTMENTS

2013 – current: Associate Professor of Finance
Advisor, Student-Managed Endowment for Educational Development (SEED)
Virginia Polytechnic Institute & State University

2011 – 2013: Visiting Professor of Finance, Schools of Business, Wake Forest University

2010 – 2011: Assistant Department Head, Department of Finance, Virginia Polytechnic Institute & State University

2002 – 2011: Advisor, Student-Managed Endowment for Educational Development (SEED)
Virginia Polytechnic Institute & State University

Duties: Organize, advise, and instruct finance undergraduates and MBAs managing approximately $5.0 million equity fund on behalf of the Virginia Tech Foundation.

1994 - Current: Associate Professor of Finance
Virginia Polytechnic Institute & State University

1993: Vice President
Association for Investment Management and Research
(Subsequently renamed the CFA Institute)
Education and Programs Department

Duties: Project director, responsible for the development and design of education technology products. Projects included videos on options and futures analysis, ethical issues in the investment profession, and financial statement analysis for investment valuation and management.

Responsible for the design and offering of continuing education programs to meet the needs of AIMR's members in particular and the investment industry in general.

Associate Professor, On Leave of Absence
Virginia Polytechnic Institute & State University

1987-1992: Associate Professor of Finance
Virginia Polytechnic Institute & State University

1981-1987: Assistant Professor of Finance
irginia Polytechnic Institute & State University

1978-1981: Lecturer of Finance
Texas A&M University

1977-1978: Lecturer of Economics
Research Assistant in Economics
Texas A&M University

Summers 1978, 1980: Research Associate
Texas Transportation Institute
Texas A&M University

Duties: (1978) Principal researcher and author of a study concerning design of optimal subsidy techniques for public transit projects. (1980) Co-author of research proposal for study of the projected economic impact of user charges on the Texas Gulf Intra-Coastal Waterway (proposal accepted and fully funded). Performed research concerning various policy issues in transportation economics.

PROFESSIONAL DESIGNATIONS

1986: Chartered Financial Analyst (CFA)
The Institute of Chartered Financial Analysts

1992: Certified Rate of Return Analyst (CRRA)
National Society of Rate of Return Analysts

2007: Financial Risk Manager (FRM)
Global Association of Risk Managers

EDUCATION

1982: Doctor of Philosophy in Finance, supporting field in Economics
Dissertation Title: "A Multivariate Analysis of Bank Holding Company Capital Note and Debenture Ratings"
Chairman: Dr. Donald R. Fraser
Texas A&M University

1978: Master of Science in Economics, supporting field in Statistics
Texas A&M University

1976: Bachelor of Arts in Economics
Texas Tech University

PRIMARY TEACHING AND RESEARCH INTERESTS

Teaching: Equity valuation and portfolio management; risk management/financial derivatives.

Research: Equity valuation methods, information uncertainty, and regulatory financial issues.

TEACHING HONORS

William E. Wine Award Teaching Achievement Award, Virginia Polytechnic Institute & State University, 2011.

Teaching Excellence Award, Pamplin College of Business, Virginia Polytechnic Institute & State University, 2008-2009.

Holtzman Outstanding Educator Award, Pamplin College of Business, Virginia Polytechnic Institute & State University, 2008-2009.

Teaching Excellence Award, Pamplin College of Business, Virginia Polytechnic Institute & State University, 2002-2003.

Holtzman Outstanding Educator Award, Pamplin College of Business, Virginia Polytechnic Institute & State University, 2002-2003.

Teaching Excellence Award, Pamplin College of Business, Virginia Polytechnic Institute & State University, 1986-1987.

Excellence in Teaching Award, MBA Association, Virginia Polytechnic Institute and State University, 1985-1986.

PUBLICATIONS

Books

Understanding Arbitrage: An Intuitive Approach to Financial Analysis, (Upper Saddle River, New Jersey: Wharton School Publishing, 2006), (Author listing: Randall. S. Billingsley).

Candidate Study Notes: CFA Exam Review, Authored material on equity valuation, portfolio analysis, and derivatives and alternative investments, which are in Volumes I and 3. (Cengage Learning: Mason, OH, 2008), (Author listing: Randall S. Billingsley, John Paul Broussard, John S. Howe, Edward Nelling, J. Clay Singleton, and E. Theodore Veit. Series Editor: Michael D. Joehnk).

Candidate Study Notes: CFA Exam Review, Authored material on equity valuation, portfolio analysis, and derivatives and alternative investments, which are in Volumes I and 3. (Cengage Learning: Mason, OH, 2009), (Author listing: Randall S. Billingsley, John Paul Broussard, Johan S. Howe, Edward Nelling, J. Clay Singleton, and E. Theodore Veit. Series Editor: Michael D. Joehnk).

Personal Financial Planning, (Cengage Learning: Mason, OH, 13th edition, 2013), (Author listing: Lawrence J. Gitman, Michael D. Joehnk, and Randall S. Billingsley).

PFIN, (South-Western College Publishing: Mason, OH, 2013, 3rd edition), (Author listing: Lawrence J. Gitman, Michael D. Joehnk, and Randall S. Billingsley). (Personal finance textbook related to above *Personal Financial Planning* book.)

Journal Articles - Refereed

“The 2008 Short Sale Ban: Liquidity, Dispersion of Opinion, and The Cross-Section of Returns of U.S. Financial Stocks, *Journal of Banking and Finance,* Vol. 35, No. 9, September 2011, pp. 2252-2266 (Author listing: Don M. Autore, Randall S. Billingsley, and Tunde Kovacs).

“Information Uncertainty and Auditor Reputation,” *Journal of Banking and Finance*, Vol. 33, No. 2, February 2009, pp. 183-192 (Author listing: Don M. Autore, Randall S. Billingsley, and Meir Schneller).

“The Benefits and Limits of Diversification Among Commodity Trading Advisors,” *Journal of Portfolio Management*, Vol. 23, No. 1, Fall 1996, pp. 65-80 (Author listing: R. S. Billingsley and D. M. Chance).

“Why Do Firms Issue Convertible Debt?” *Financial Management*, Vol. 25, No. 2, Summer 1996, pp. 93-99, (Author listing: R. S. Billingsley and D. M. Smith).

"Simultaneous Debt and Equity Offerings and Capital Structure Targets," *Journal of Financial Research*, Vol. 17, No. 4, Winter 1994, (Author listing: R. S. Billingsley, D. M. Smith, and R. E. Lamy).

"Regional Reciprocal Interstate Banking: The Supreme Court and the Resolution of Uncertainty," *Journal of Banking and Finance*, Vol. 16, No. 1, 1992, pp. 665-686, (Author listing: R. S. Billingsley and R. E. Lamy).

"Integration of the Mortgage Market," *Journal of Financial Services Research*, Vol. 6, 1992, 137-155, (Author listing: R. S. Billingsley, V. A. Bonomo, and S. P. Ferris).

“Units of Debt with Warrants: Evidence of the 'Penalty-Free' Issuance of an Equity-Like Security," *The Journal of Financial Research*, Vol. 13, No. 3, Fall 1990, pp. 187-199, (Author listing: R. S. Billingsley, R. E. Lamy, and D. M. Smith).

"Shareholder Wealth and Stock Repurchases by Bank Holding Companies," *Quarterly Journal of Business and Economics*, Vol. 28, No. 1, Winter 1989, pp. 3-25, (Author listing: R. S. Billingsley, D. R. Fraser and G. R. Thompson).

Abstract: *Journal of Economic Literature*, Vol. 27, No. 3, September 1989, p. 1503.

"The Regulation of International Lending: IMF Support, the Debt Crisis, and Bank Shareholders," *Journal of Banking and Finance*, Vol. 12, No. 2, 1988, pp. 255-274, (Author listing: R. S. Billingsley and R. E. Lamy).

"Put-Call Ratios and Market Timing Effectiveness," *Journal of Portfolio Management*, Vol. 15, No. 1, Fall 1988, pp. 25-28, (Author listing: R. S. Billingsley and D. M. Chance).

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"Bankruptcy Avoidance as a Merger Incentive," *Managerial Finance*, Vol. 14, No. 1, November 1988, pp. 25-33, (Author listing: R. S. Billingsley, D. J. Johnson, and R. P. Marquette).

"The Pricing and Performance of Stock Index Futures Spreads," *Journal of Futures Markets*, Vol. 8, No. 3, June 1988, pp. 303-318, (Author listing: R. S. Billingsley and D. M. Chance).

"The Choice Among Debt, Equity, and Convertible Bonds," *Journal of Financial Research*, Vol. 11, No. 1, Spring 1988, pp. 43-55, (Author listing: R. S. Billingsley, R. E. Lamy, and G. R. Thompson).

"Valuation of Primary Issue Convertible Bonds," *Journal of Financial Research*, Vol. 9, No. 3, Fall 1986, pp. 251-259, (Author listing: R. S. Billingsley, R. E. Lamy, and G. R. Thompson).

Abridged Reprint: *The CFA Digest*, Vol. 17, No. 2, Spring 1987, pp. 18-19.

"The Reaction of Defense Industry Stocks to World Events," *Akron Business and Economic Review*, Vol. 18, No. 2, Summer 1987, pp. 40-47, (Author listing: R. S. Billingsley, R. E. Lamy, and G. R. Thompson).

"Listed Stock Options and Managerial Strategy," *Strategy and Executive Action,* No. 4, Fall 1986, pp. 17-20, 28, (Author listing: R. S. Billingsley and D. M. Chance).

"Reevaluating Mortgage Refinancing "Rules of Thumb," *Journal of the Institute of Certified Financial Planners*, Vol. 7, No. 1, Spring 1986, pp. 37-45, (Author listing: R. S. Billingsley and D. M. Chance).

"Explaining Yield Savings on New Convertible Bond Issues," *Quarterly Journal of Business and Economics*, Vol. 24, No. 3, Summer 1985, pp. 92-104, (Author listing: R. S. Billingsley, R. E. Lamy, M. W. Marr, and G. R. Thompson).

Abstract: *Journal of Economic Literature*, Vol. 24, No. 2, June 1986, p. 1083.

"Options Market Efficiency and the Box Spread Strategy," *Financial Review,* Vol. 20, No. 4, November 1985, pp. 287-301, (Author listing: R. S. Billingsley and D. M. Chance).

Reprint: *CFA Readings in Derivative Securities*, pp. 217-231, Charlottesville, VA: The Institute of Chartered Financial Analysts, 1988.

"Determinants of Stock Repurchases by Bank Holding Companies," *Journal of Bank Research*, Vol. 16, No. 3, Autumn 1985, pp. 128-35, (Author listing: R. S. Billingsley and G. R. Thompson).

"The Informational Content of Unrated Industrial Bonds," *Akron Business and Economic Review*, Vol. 16, No. 2, Summer 1985, pp. 53-58, (Author listing: R. S. Billingsley and R. E. Lamy).

"Split Ratings and Bond Reoffering Yields," *Financial Management*, Vol. 14, No. 2, Summer 1985, pp. 59-65, (Author listing: R. S. Billingsley, R. E. Lamy, M. W. Marr, and G. R. Thompson).

"Determinants of Bank Holding Company Bond Ratings," *Financial Review*, Vol. 19, No. 1, March 1984, pp. 55-66, (Author listing: R. S. Billingsley and D. R. Fraser).

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"Market Reaction to the Formation of One-Bank Holding Companies and the 1970 Bank Holding Company Act Amendment," *Journal of Banking and Finance*, Vol. 8, No. 2, 1984, pp. 21-33, (Author listing: R. S. Billingsley and R. E. Lamy).

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"Preliminary Study Indicates Optimal Number of Advisors May Be 40 +," *Managed Account Reports*, Issue No. 185, July 1994, p. 13.

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"The Evolution of Depository Institution Regulation in the United States," in *Banking and Monetary Reform: A Conservative Agenda*, Catherine England, pp. 47-56, Washington, D. C.: The Heritage Foundation, 1985, (Author listing: R. S. Billingsley).

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Cases

“Merck & Company: A Comprehensive Equity Valuation Analysis,” Charlottesville, VA: The Association for Investment Management and Research, (Author listing: R. S. Billingsley), 1996.

Adopted by the Candidate Curriculum Committee of the CFA Program: 1997, 1998, 1999, 2000, 2001, and 2002.

"Equity Securities Analysis Case Study: Merck & Company," *The CFA Candidate Readings II*, Charlottesville, VA: The Association for Investment Management and Research, (Author listing: R. S. Billingsley), 1994.

Adopted by the Candidate Curriculum Committee of the CFA Program: 1994, 1995, and 1996.

Proceedings

"Bankruptcy Avoidance as a Merger Incentive: An Empirical Study of Failing Firms," *Financial Review*, Vol. 18, No. 3, 1983, p. 94, (Author listing: R. S. Billingsley, D. J. Johnson, and R. P. Marquette).

"A Multivariate Analysis of the Ratings of Bank Holding Company Debt Issues," *The Financial Review*, Vol. 17, No. 2, July 1982, p. 57, (Author listing: R. S. Billingsley and D. R. Fraser).

Editor

“Corporate Decision Making and Equity Analysis,” Seminar Proceedings, Charlottesville, VA: The Association for Investment Management and Research, (Author listing: R. S. Billingsley, Editor), 1995.
"Industry Analysis: The Telecommunications Industry," Seminar Proceedings, Charlottesville, VA: The Association for Investment Management and Research, (Author listing: R. S. Billingsley, Editor), 1994.

PAPERS PRESENTED AT PROFESSIONAL MEETINGS

“Regulatory Uncertainty, Corporate Expectations, and the Postponement of Investment: The Case of Electricity Market Deregulation,” (Author listing: R. S. Billingsley and C. J. Ullrich). Presented at the Energy & Finance Conference, Erasmus School of Economics, Erasmus University, Rotterdam, The Netherlands, October 2011. Winner of the Best Academic Paper Award.

“Short Sale Constraints, Dispersion of Opinion, and Market Quality: Evidence from the Short Sale Ban on U.S. Financial Stocks,” (Author Listing: D. M. Autore, R. S. Billingsley, and Tunde Kovacs). Presented at the Financial Management Association Meetings, Reno, Nevada, October 2009. (Subsequently published in the *Journal of Banking and Finance*, see article citation.)

“Information Uncertainty and Auditor Reputation,” (Author listing: D. M. Autore, R. S. Billingsley, and M. I. Schneller). Presented at the Financial Management Association Meetings, Orlando, Florida, October 2007. (Subsequently published in the *Journal of Banking and Finance*, see article citation.)

"The Telecommunications Act of 1996: Preliminary Surprises of Deregulation," (Author listing: R. S. Billingsley, P. P. Peterson, and J. M. Pinkerton). Presented at the Financial Management Association Meetings, Seattle, Washington, October 2000.

“Further Evidence on the Gains from Diversification in Multi-Manager Programs," (Author listing: R. S. Billingsley and D. M. Chance). Presented at Managed Account Reports' conference, *Alternative Investment Strategies*, Chicago, Illinois, June 1995.

"The Gains from Diversification in a Multi-Manager Program: Some Preliminary Results," (Author listing: R. S. Billingsley and D. M. Chance). Presented at Managed Account Reports' conference, *Derivatives Investment Management*, Chicago, Illinois, July 1994.

"Firm Value and Convertible Debt Issues: Signaling vs. Agency Effects," (Author listing: R. S. Billingsley, R. E. Lamy, and D. M. Smith). Presented at the Eastern Finance Association Meetings, Hot Springs, Virginia, April 1991.

"The Valuation of Simultaneous Debt and Equity Offerings," (Author listing: R. S. Billingsley, R. E. Lamy, and D. M. Smith). Presented at the Financial Management Association Meetings, Orlando, Florida, October 1990.

"The Choice Between Issuing Convertible Bonds and Units of Debt with Warrants," (Author listing: R. S. Billingsley, R. E. Lamy and D. M. Smith). Presented at the Financial Management Association Meetings, New Orleans, Louisiana, October 1988. (Subsequently published in *The Journal of Financial Research*, see article citation.)

"The Choice Among Debt, Equity, and Convertible Bonds," (Author listing: R. S. Billingsley, R. E. Lamy, and G. R. Thompson). Presented at the Financial Management Association Meetings, Las Vegas, Nevada, October 1987. (Subsequently published in *The Journal of Financial Research,* see article citation.)

"The Regulation of International Lending: IMF Support, the Debt Crisis, and Bank Shareholders," (Author listing: R. S. Billingsley and R. E. Lamy). Presented at the Conference on Bank Structure and Competition, Federal Reserve Bank of Chicago, Chicago, Illinois, May 1986. (Subsequently published in the *Journal of Banking and Finance*, see article citation.)

"Valuation of Primary Issue Convertible Bonds," (Author listing: R. S. Billingsley, R. E. Lamy and G. R. Thompson). Presented at the Financial Management Association Meetings, Denver,

Colorado, October 1985. (Subsequently published in *The Journal of Financial Research*, see article citation.)

"The Economic Impact of Split Ratings on Bond Reoffering Yields," (Author listing: R. S. Billingsley, R. E. Lamy, M. W. Marr, and G. R. Thompson). Presented at the Financial Management Association Meetings, Toronto, Canada, October 1984. (Subsequently published in *Financial Management*, see article citation.)

"The Informational Content of Unrated Industrial Bonds," (Author listing: R. S. Billingsley and R. E. Lamy). Presented at the Financial Management Association Meetings, Atlanta, Georgia, October 1983. (Subsequently published in *Akron Business and Economic Review*, see article citation.)

"Bankruptcy Avoidance As A Merger Incentive: An Empirical Study of Failing Firms," (Author listing: R. S. Billingsley, R. P. Marquette, and D. J. Johnson). Presented at the Eastern Finance Association Meetings, New York, New York, April 1983. (Subsequently published in *Managerial Finance*, see article citation.)

"A Multivariate Analysis of the Ratings of Bank Holding Company Debt Issues," (Author listing: R. S. Billingsley and D. R. Fraser). Presented at the Eastern Finance Association Meetings, Jacksonville, Florida, April 1982. (Subsequently published in *The Financial Review*, see article citation.)

PROFESSIONAL EDUCATIONAL SEMINARS PLANNED AND ORGANIZED FOR THE ASSOCIATION FOR INVESTMENT MANAGEMENT AND RESEARCH

(Subsequently renamed the CFA Institute)

“Corporate Financial Decision Making and Equity Analysis,” New York, NY, February 2000. Conference Moderator: M. Kritzman.

“Risk Management,” Boston, MA, March 1999. Conference Moderator: B. Putnam.

“Investing in the “New” Telecommunications Industry,” New York, NY, September 1997. Conference Moderator: L. J. Haverty, Jr.

“Managing the Investment Professional,” Chicago, IL, April 1996. Conference Moderator: R. S. Lannamann.

“Effective Risk Management in the Investment Firm,” Boston MA, October 1995. Conference Moderator: G. L. Gastineau.

"Equity Analysis: The Role of Corporate Financial Decision Making," Washington, D.C., January 1995. Conference Moderator: R. S. Billingsley.

"Blending Quantitative and Traditional Equity Analysis," Boston, MA, March 1994. Conference Moderator: H. R. Fogler.

"Industry Analysis: The Telecommunications Industries," New York, NY, November 1993. Conference Moderator: R. S. Billingsley.

PROFESSIONAL SERVICE

Board of Directors

Virginia Tech Services, chair of audit committee, 2005 – 2010.

Society of Utility and Regulatory Financial Analysts, 1993 – 2002.

Virginia Tech Faculty Senate

Senator, 2006 - 2009.

CFA Institute Activities
(Formally the Association for Investment Management and Research)
Professional service beyond duties performed as Vice President.

Grading Staff, Institute of Chartered Financial Analysts, June 1987.

Candidate Curriculum Committee, Institute of Chartered Financial Analysts, Quantitative Analysis Subcommittee, 1987-1989.

CFA Examination Analysis Team, Levels I-III, March 1988.

CFA Examination Grading Review Team, July 1988.

Faculty, CFA Refresher Course, Valuation: Equity, Charlottesville, VA, June 1992, June 1993, June 1994, UCLA, November 1994.

Faculty, Basics of Equity Analysis, Montreal, Quebec, Canada, November 1994.

Manuscript Referee for Selected Journals

Journal of Banking and Finance

Journal of Business Research

Journal of Financial Research

Journal of Futures Markets

Financial Review

Quarterly Review of Business and Economics

International Review of Economics and Finance

Journal of Business Research

SELECTED INVITED SPEECHES/WORKSHOPS

Paper presented at Wake Forest University and Rollins College, Spring 2011, "Short Sale Constraints and Dispersion of Opinion: Evidence from the Short Sale Ban on U.S. Financial Stocks," Author listing: Don M. Autore, Randall S. Billingsley, and Tunde Kovacs.

Mubadala Development, "Company Analysis: Valuation, Forecasting, and Financial Modeling," Abu Dhabi, UAE, April 2009.

The Richmond Society of Financial Analysts, "Reverse Financial Engineering and the Consensus Equity Valuation," Richmond, VA, January 2004.

LDC / Virginia State Corporation Commission Conference, "LDC Return On Equity: Has The World Changed? Common Myths in Cost of Capital Analysis," Roanoke, VA, October 2003.

Securities Analysts' Association, "Equity Valuation and Analysis Workshop," Bangkok, Thailand, March 1997 and March 1998.

Maryland - District of Columbia Utilities Association, "Telecommunications: Increasing Risk on the Horizon? An Investment Community Perspective," 71st Annual Fall Conference, Ocean City, MD, September 1995.

Bell Atlantic, "Do the 'Traditional' Cost of Equity Estimation Methods Work in the Current Environment?" National Accounting Witness Conference, Landsdowne Conference Resort, VA, April 1994.

Southeastern Electric Exchange, "Trends in Estimating the Cost of Equity for Public Utilities," St. Petersburg, FL, October 1993.

Securities Analysts' Association, "Common Problems in Valuing Equity Securities," Bangkok, Thailand, April 1992.

Virginia Bankers Association, Group Five (Credit Policy Committee), "Want to Sell Your Bank?" Interstate Banking in 1987 and Beyond," Credit Policy Conference, Radford, VA, April 1987.

CONSULTING ACTIVITIES

Equity Valuation and Portfolio Management Consulting

Equity valuation modeling and portfolio optimization.

Cost of Capital Analysis and Financial Damages Estimation Consulting

Expert witness consulting and testifying (especially for U.S. telecommunications firms), economic damages analysis, and valuation of private firms. See testimony filings below.

Investment Education Consulting

Train investment professionals preparing for CFA examinations in the U.S., Europe, and Asia.

Selected Consulting Clients

Bell Atlantic

BellSouth Telecommunications

CFA Institute (formerly the Association for Investment Management and Research)

The Financial Analysts' Review of the United States

Howrey Simon Arnold & White, LLP

Institut Penembangan Analisis Finansial, Jakarta, Indonesia

LECG

Mubadala Development, Abu Dhabi, UAE

National Exchange Carrier Association

Schweser Study Program (a Kaplan Professional Company)

Securities Analysts' Association, Bangkok, Thailand

Sprint

Union Bank of Switzerland and UBS AG, Zürich and Basel

United States Telecommunications Association

Virginia Retirement System, Internal Equity Management

Expert Witness Telecommunications Regulatory Testimony
(Note: only original docket indicated; direct and rebuttal not distinguished in same docket spanning over one year.)

Company	Docket No. and Year	
National Exchange Carrier Association	FCC WT 10-208	2102
BellSouth Telecommunications (Alabama)	ALPSC 29054	2004
BellSouth Telecommunications (Florida)	FLPSC 30851-TP	2004
BellSouth Telecommunications (Georgia)	GPSC 14361-U Remand	2004
BellSouth Telecommunications (Kentucky)	KYPSC 00374	2004
BellSouth Telecommunications (Louisiana)	LAPSC U-27571	2004
BellSouth Telecommunications (Mississippi)	MSPSC 2003-AD-174	2004
BellSouth Telecommunications (North Carolina)	NCPSC P-100, Sub 133D	2004
BellSouth Telecommunications (North Carolina)	NCPSC P-100, Sub 133Q	2004
BellSouth Telecommunications (South Carolina)	PSCSC 2003-326-C	2004
BellSouth Telecommunications (Tennessee)	TRA 03-00491	2004
BellSouth Telecommunications (Georgia)	GAPSC 17749-U	2003
Haviland Telephone Company (Kansas)	KCC 03-HVDT-664-RTS	2003
Innovative Telephone Company (U.S.V.I.)	VIPSC 532	2002

BellSouth Telecommunications (North Carolina)	NCPSC P-100, Sub133D	2002
BellSouth Telecommunications (Georgia)	GAPSC 14361-U	2001
BellSouth Telecommunications (Alabama)	ALPSC 27821	2000
BellSouth Telecommunications (Florida)	FLPSC 990649-TP	2000
BellSouth Telecommunications (Kentucky)	KPSC Adm. Case 382	2000
BellSouth Telecommunications (Louisiana)	LAPSC U-24714, Sub A	2000
BellSouth Telecommunications (Mississippi)	MPSC 2000-UA-999	2000
BellSouth Telecommunications (South Carolina)	SCPUC 2001-65-C	2000
United State Telephone Association, et al.	FCC 98-166	1999
BellSouth Telecommunications and Sprint-Florida (Florida)	FLPSC 980696	1998
BellSouth Telecommunications (Alabama)	ALPSC 25980	1998
BellSouth Telecommunications (Florida)	FLPSC 980696-TP	1998
BellSouth Telecommunications (Kentucky)	KPSC Adm. Case 361	1998

Company	**Docket No. and Year**	
BellSouth Telecommunications (Mississippi)	MPSC 98-AD-035	1998
BellSouth Telecommunications (Mississippi)	MPSC 98-AD-544	1998
BellSouth Telecommunications (North Carolina)	NCPSC P-100, Sub 133B	1998
BellSouth Telecommunications (North Carolina)	NCPSC P-100, Sub 133D	1998
BellSouth Telecommunications (Tennessee)	TRA 97-00888	1998
BellSouth Telecommunications (Florida)	FLPSC 960833-TP	1997
BellSouth Telecommunications (Kentucky)	KPSC Adm. Case 360	1997
BellSouth Telecommunications (Tennessee)	TRA 97-01262	1997
BellSouth Telecommunications (South Carolina)	SCPSC 97-374-C	1997
BellSouth Telecommunications (Florida)	FPSC 960833-TP	1997
BellSouth Telecommunications (Alabama)	ALPSC 26029	1997
BellSouth Telecommunications (Georgia)	GAPSC 7061-U	1997
United States Telephone Association	FCC 96-262	1997
United States Telephone Association	FCC AA096-28	1996
Southern Bell (South Carolina)	SCPSC 95-862-C	1995
United States Telephone Association	FCC 94-1	1994
Southern Bell (South Carolina)	SCPSC 93-503-C	1994
Southern Bell (Georgia)	GPSC 3905-4	1994
Southern Bell (Florida)	FPSC 920260-TL	1993

Appendix B:

Free Cash Flow Methodology to Calculate RLEC Cost of Capital – Detailed Explanation

APPENDIX B: DCF Using the Free Cash Flow Method

Estimating the cost of capital is a very difficult issue, especially for companies whose ownership and debt are not traded on open markets. Economists have developed techniques to capture basic elements of the cost of equity and debt. The cost of debt is primarily associated with market interest rates. The Discounted Cash Flow (DCF) approach focuses on discounting future cash flows a company is expected to yield to an equity holder. The Capital Asset Pricing Model (CAPM) model predicts a relationship between the expected return on an asset and its risk. Economic theory underlying Weighted Average Cost of Capital (WACC) shows that business risk is the key element of the cost of capital.[1]

These techniques are based on simplifying assumptions of rational investors, highly efficient markets, and market expectations that are closely in line with market performance. The Staff Report recognizes that these assumptions have been called into question by economists including Fama and French, and Shiller.[2] According to another scholar, Joseph Stiglitz, a Nobel Prize winner in economics, neoclassical approaches to determining cost of capital are suspect because they assume no credit rationing, despite the widespread use of such techniques to limit loans to less risky customers instead of charging higher interest rates.[3]

As to the cost of capital techniques developed by Modigliani and Miller and used by the Bureau, Stiglitz said, "Modigliani and Miller ignored the possibility of bankruptcy and the costs associated with it – and the fact that the more a firm borrows, the higher the probability of bankruptcy. They also ignored the information that might be conveyed by an owner's decision to sell shares; an owner's eagerness to sell shares at a very low price almost surely says

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[1] Modigliani, F.; Miller, M., "The Cost of Capital, Corporation Finance and the Theory of Investment", AM. ECO. REV. 48 (3): 261–297 (1958). The theorem assumes away default risk and tax shields.

[2] *Staff Report* ¶¶ 58 n.99, 62 n.108.

[3] *See* JOSEPH E. STIGLITZ, FREEFALL: AMERICA, FREE MARKETS, AND THE SINKING OF THE WORLD ECONOMY 246 (W.W.Norton & Company, Inc. 2010) In regard to credit rationing, in recently filed comments in this proceeding, CoBank asked that the Staff Report

> "include a paragraph discussing the lack of funding availability for RLECs given that unpredictability in the cost recovery mechanism because of limits and caps on universal service funding and inter-carrier compensation adversely impact RLEC creditworthiness. Essentially, lenders are constrained with respect to prudent and appropriate RLEC lending, consistent with regulatory underwriting and credit administration requirements, when the income capacity of a RLEC borrower is not reasonably predictable and well established over time."

Comments of CoBank, WC Docket No. 10-90, 5 (filed Apr. 18, 2011).

something about his views of the firm's future prospects."[4] Recent sales of assets, therefore, could have a strong bearing on an investor's required rate of return. This information is a key benefit of using the Free Cash Flow (FCF) approach described below.

The FCF method estimates the cost of capital based on actual information conveyed by buyers and sellers of rural access lines, rather than generalized market data and "proxy" companies. The FCF method is another form of the DCF technique. However, the standard textbook illustration of DCF assumes a passive investor valuing a traded share of equity, deriving a bid price based on the stock's future cash inflows (i.e., the dividends the investor expects to receive). The required return of this type of investor is limited to a return on equity, that is, the return on the stock purchase. To derive a WACC, an analyst would then have to estimate the cost of debt and weight the debt and equity funding sources, which adds complexity and is likely to introduce errors, especially for estimating the WACC for companies not traded on organized exchanges.

The FCF method relies on actual operating data for the current cash flow, growth in operations, and actual asset sales to estimate the value of a firm. In effect, it relies on a DCF calculation made by an investor who is acquiring assets and is likely to manage them. The investor values the company by estimating the future free cash flow the company will generate and discount back to the present. The strike (sales) price is in effect the value of the firm measured as either the market value of its assets or the market value of its debt and equity. As a result, the required rate of return of an active investor already embeds the cost of equity and debt. The FCF approach, therefore, avoids having to deal with separate errors of estimating the cost of debt and equity as well as the target capital structure weights.

The FCF method is closely akin to a standard payback technique that produces a return on investment estimate. People buying and selling properties typically want to know how long it will take to recover their original investment and what level of return the investor can expect. For example, if the FCF multiple is 5, it means that investors want their money back in five years and effectively want a return on investment of 20%. In sales of rural access lines, the transaction is defined by the sale price, the number of lines, and XEBITDA. [5]

[4] *See* Stiglitz at 246.

[5] Times EBITDA is similar to estimating the sales price as a multiple of cash flow. See Attachment 1, provided by JSI Capital, Inc., which includes one such multiple analysis based on OIBDA (Operating Income Before Depreciation and Amortization).

The FCF approach is well accepted by financial analysts and is described in standard textbooks, including McKinsey & Company's book on Valuation,[6] cited as authoritative in the *Staff Report.*[7] The 2005 edition of this text describes the "well-known cash flow perpetuity formula:"[8]

$$\text{Value} = FCF_{t=1}/(WACC - g)$$

According to *Koller et al.*, "this formula is well established in the finance and mathematics literature."[9]

The Rural Associations used this formula to derive the following relationship:[10]

$$WACC = FCF/Value$$

This formula does not include growth or *g*, because an analysis of yearly revenue requirement growth showed that the three-year average of *g* is .01 percent. Given the uncertainty in the environment, this is our best guess of the future level of *g*. Since the predicted *g* has a negligible impact on the calculations, it can be ignored when using the formula to derive WACC.

There are other practical advantages of using the FCF method besides its simplicity. For example, FCF data are limited to RLEC regulated activities, for which cost of capital determinations are relevant for purposes of prescribing an authorized RoR. By contrast, the Staff Proposed Proxy includes companies for which as little as 10 percent of overall operations could be classified as incumbent LEC price-regulated interstate telecommunications.[11]

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[6] Tom Copeland, Tim Koller, and Jack Murrin, VALUATION: MEASURING AND MANAGING THE VALUE OF COMPANIES (McKinsey & Company 2000).

[7] *Staff Report* ¶¶ 12, 64.

[8] McKinsey & Company: Tim Koller, Marc Goedhart, and David Wessels, VALUATION: MEASURING AND MANAGING THE VALUE OF COMPANIES 62 (John Wiley & Sons, Inc. 2005).

[9] *Id.* at 62.

[10] *January 2012 Association Comments* at 57.

[11] *Staff Report* ¶ 12.

Moreover, the dataset used by the Rural Associations in this analysis consists of 633 cost and average schedule companies, as opposed to the 16 proxy companies used by the Bureau in preparing its recommendation.[12]

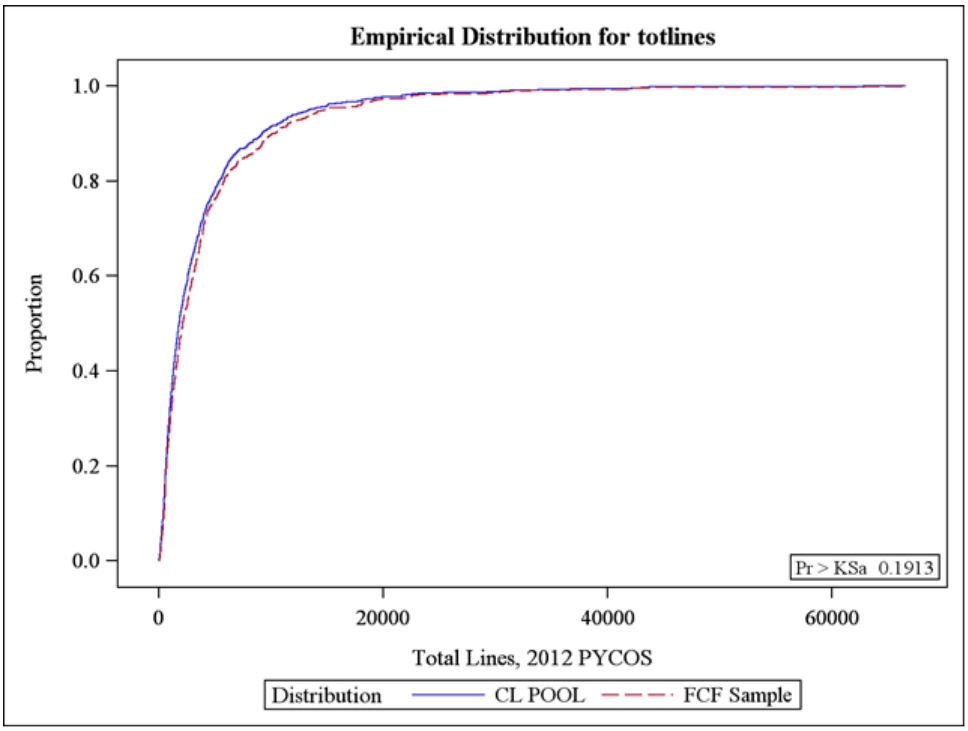
The WCB staff expressed concern that the FCF analysis "relies on a non-random sample of cost companies that chose to respond to a NECA data request."[13] In fact, as noted above, the dataset consists of both cost and average schedule companies. To test whether the FCF sample is representative of the NECA common line pool, however, it is possible to plot the line size distribution of the common line pool and overlay it with the line size distribution of the FCF sample. As one can see in Figure 1, the two distributions are very similar, which is further supported by a statistical test. [14]

[12] These data have previously been provided to the Commission. *See* Letter from Regina McNeil, Vice President of Legal, General Counsel & Corporate Secretary, National Exchange Carrier Association, Inc., to Ms. Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-92 (filed Feb. 29, 2011).

[13] *Staff Report* ¶ 56 n.94.

[14] The Kolmogorov-Smirnov two-sample test had a p value of 0.19, indicating the null hypothesis of identical line size distributions in the FCF sample and the common line pool could not be rejected.

Figure 1. Cumulative line size distributions of the NECA common line pool and FCF sample.



CL Pool: NECA Common Line Pool.
FCF Sample: Sample of companies used in FCF analysis.

The WCB staff also expressed concern the Rural Associations approach "arbitrarily reduces price-per-line data."[15] Attachment 1 displays data from a number of ILEC property transactions, including ones as recent as July 2, 2012. In computing the cost of capital at different price-per-line values, the Rural Associations originally used a range of $1,200 to $2,400, with $1,800 as the midpoint price-per-line.[16] The only transaction reported in the accompanying JSI Capital table for the most recent years that does not include a large fraction of non-regulated services[17] had a price of $1,053 per line. This recent sale recorded by JSI Capital suggests the value of RLEC lines continues to drop.

[15] *Staff Report* ¶ 56 n.94.

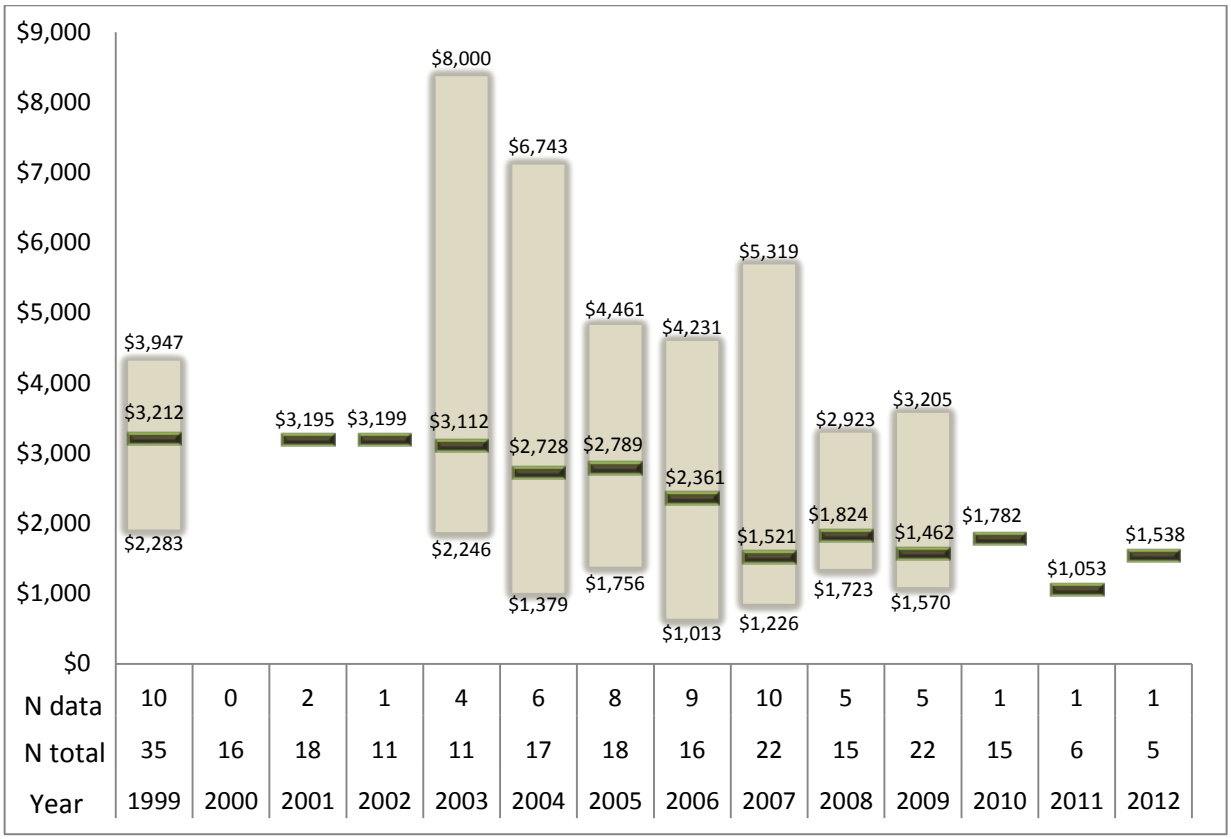
[16] *January 2012 Association Comments.*

[17] In the JSI table, Attachment 1, recent transaction prices are based on connections which include ILEC and CLEC access lines, DSL and high speed subscribers and video subscribers. In cases where the difference between access lines and connections are substantial we drop the observation because we cannot determine what proportion of the observation is related to the regulated service.

This recent transaction price is well below the midpoint value of $1,800 shown in the Rural Associations' *January 2012 Comments*. In fact, $1,053 is less than the $1,200 at the low end of the Rural Associations' range. Since cost of capital estimates using the FCF method increase as per-line prices decrease, it is clear that the line sales price range used in the Rural Associations' *January 2012 Comments* provides a conservative view of recent market valuations and WACC for RLECs.

Figure 2 displays the data supplied by JSI Capital for all rural service area transactions, whether related to regulated services or a broader class including non-regulated services. It is apparent that prices are clearly trending downwards. It is interesting to note that recent sales whether they include non-regulated services or not have per connection prices that are below $1800 per connection. Besides the price decline, it is also apparent that the number of transactions has drifted downward over time and has practically dried up in the last two years reported, 2011 and 2012. The lack of more recent transactions strongly suggests that the market is in paralysis: buyers and sellers cannot agree on prices. This suggests rural properties are becoming increasingly illiquid, which should also drive up the required return by an investor.

Figure 2. High, low and weighted average price per connection paid for observed ILEC property transactions.



Notes:

1. Data extracted from JSI Capital table of observed deals.
2. Chart shows observed deals with available price per connection. Number of deals used is indicated by *N data*. *N total* counts the number of total deals reported in the JSI Capital table for each year. Transactions are counted within a year depending on the transactions' "announce date".
3. Connections include ILEC and CLEC access lines, DSL and high speed data subscribers and video subscribers.

The *Staff Report* also criticized the Rural Associations' analysis based on its use of unweighted median data, without providing mean data. We continue to recommend use of median calculations to prevent outliers from dominating the WACC calculation. This is consistent with the Commission's approach to developing capital and operating expense benchmarks in its USF/ICC Order, which adopted quantile regression techniques partly as a means of limiting the effects of outliers in analyzing data. Koller *et al*. also generally use medians to reduce the weight given to extreme returns when evaluating an investment opportunity. The median is also a practical way to summarize cost of capital estimates for the sample as 159 companies

reported a negative free cash flow in 2010. As in the case of developing price/earnings ratios, the FCF ratio makes little sense as valuation tool when a company is operating at a loss.[18]

Nonetheless, to address the Bureau's concern the following chart displays the weighted mean, which among other problems reflects negative estimates. Using this approach the resulting range for WACC is between 8.69% and 17.38%, still well above the Bureau's estimated range.

Cost of Capital for Different per Line Purchase Prices

	Price = $2400	Price = $2100	Price = $1800	Price = $1500	Price = $1200
Weighted* Median	11.75%	13.42%	15.66%	18.79%	23.49%
Weighted* Mean	8.69%	9.93%	11.59%	13.91%	17.38%

* Weighted by total access lines.

Finally, it bears noting that WACC estimates obtained by the proposed FCF method range 2-6% above estimates produced by the Bureau for larger companies such as the RHCs and mid-size price cap companies. This result appears reasonable considering that larger companies, particularly the RHCs, are more diversified than RLECs and have significantly less exposure to regulatory risk based on changes to USF and ICC mechanisms. Several of the small and mid-sized companies in the Bureau's sample recently were either under financial stress or in bankruptcy. This likewise suggests that an investor would want a default premium to invest in small companies such as RLECs. The lack of rural line transactions is an indicator that the market is frozen. This is a strong indicator that a liquidity premium is necessary as well.

Conclusion

The FCF DCF is an accepted approach to estimating WACC. For purposes of this proceeding, it has distinct advantages over other approaches. FCF uses a large sample of rate of return companies for its calculations, not proxy companies. It focuses on the required return for regulated services. The FCF method calculates WACC directly, without the use of proxy estimates for the cost of debt, the cost of equity, and the calculation of debt and equity shares. Most importantly, it passes a reasonability test. The required return on a rate of return property is several percentage points higher than that for AT&T and Verizon. This premium is consistent with the riskiness documented by, among other things, steep recent declines in sales prices for rural lines.

[18] At best, one could think of the weighted mean as an expectation of both positive and negative reported FCF levels in a particular period. However, in a period of extended recession, the weighted mean is likely to be sensitive to short term depressed conditions.

Appendix B -Attachment 1

Observed Deals: Incumbent Local Exchange Carriers

Attachment 1 - Observed Deals: Incumbent Local Exchange Carriers

OBSERVED DEALS: Incumbent Local Exchange Carriers

							Estimated/Implied Private Market Multiples			
Announce Date	Close Date	Property	Buyer	EV ($m)	Access Lines (k)	Conn (k)	$/conn	REV	T_OIBDA	P_OIBDA
1/8/13	Pending	Middle Point Home Telephone Company	Telephone Service Company	n.a.	0.5	n.a.	n.a.	n.a.	n.a.	n.a.
11/28/12	1/31/2013	FairPoint Idaho Operations	Blackfoot Telecommunications	30.0	4.2	n.a.	n.a.	3.7x	6.0x	n.a.
11/21/12	12/20/2012	ICTC Group, Inc.	CIBL, Inc.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
9/25/12	12/11/2012	Millington Telephone Company	Ritter Communications	n.a.	19.0	n.a.	n.a.	n.a.	n.a.	n.a.
8/24/12	Pending	Dixville Telephone Company	Balsams View, LLC	n.a.	0.4	n.a.	n.a.	n.a.	n.a.	n.a.
2/6/12	7/2/2012	SureWest	Consolidated Communications	547.2	176.4	344.8	1,538	2.1x	6.3x	4.8x
9/20/11	1/6/2012	Vision Communications	EATEL	n.a.	10.2	n.a.	n.a.	n.a.	n.a.	n.a.
8/9/11	1/1/2012	Andrew Telephone	La Motte Telephone	n.a.	0.7	n.a.	n.a.	n.a.	n.a.	n.a.
6/30/11	8/23/2011	United Telephone Company	Msouth Equity Partners	n.a.	12.5	n.a.	n.a.	n.a.	n.a.	n.a.
4/18/11	11/10/2011	Westphalia Telephone	Great Lakes Comnet	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4/4/11	10/14/2011	Shoreham Telephone	Otelco	5.3	5.0	5.0	1,053	2.2x	6.1x	n.a.
1/9/11	12/31/2011	KPU Telecom	Matanuska Telephone	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
12/8/10	11/1/2011	NTELOS Wireline Business	Spin-off	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
11/15/10	6/13/2011	GTA TeleGuam	Advantage Partners	n.a.	55.0	n.a.	n.a.	n.a.	n.a.	n.a.
11/9/10	12/31/2010	Rice Belt Telephone	Smithville Telephone	n.a.	0.9	n.a.	n.a.	n.a.	n.a.	n.a.
10/26/10	12/31/2010	Timberline Telecom	North State Telephone	n.a.	0.2	n.a.	n.a.	n.a.	n.a.	n.a.
10/7/10	12/20/2010	Villisca Farmers Telephone	Farmers Mutual Telephone	n.a.	0.8	n.a.	n.a.	n.a.	n.a.	n.a.
9/27/10	12/31/2010	Peninsula Telephone	Ace Communications	n.a.	0.9	n.a.	n.a.	n.a.	n.a.	n.a.
9/10/10	12/29/2010	Diversicom	Arvig Enterprises	n.a.	9.8	n.a.	n.a.	n.a.	n.a.	n.a.
9/9/10	12/17/2010	Redwood County Telephone	Arvig Enterprises	n.a.	5.2	n.a.	n.a.	n.a.	n.a.	n.a.
8/16/10	8/12/2010	ITS Telecom	Jeff Leslie	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
7/23/10	9/8/2010	Community Telephone Company	Hilliary Communications	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6/24/10	11/4/2010	Nova Telephone Company	VNC Enterprises	n.a.	1.0	n.a.	n.a.	n.a.	n.a.	n.a.
5/21/10	9/15/2010	Cameron Communications	American Broadband	n.a.	11.0	25.4	n.a.	n.a.	n.a.	n.a.
5/21/10	1/1/2010	Tri-County Telecom	McCook Cooperative Telephone	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5/20/10	4/29/2010	Southern Kansas Telephone	Mikesell	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4/22/10	4/1/2011	Qwest	CenturyLink	22,300.0	n.a.	12,515.0	1,782	1.9x	5.0x	4.4x
3/16/10	4/7/2010	Inter-Community Telephone	Sunshine PCS	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
12/14/09	9/2/2010	Totelcom Communications	TOTE Holdings	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
11/24/09	6/1/2010	Iowa Telecom	Windstream	956.0	255.6	359.6	2,658	3.5x	7.4x	5.8x
11/17/09	6/30/2010	Prairie Telephone (35 Access Lines)	Panora Communications	n.a.	0.0	n.a.	n.a.	n.a.	n.a.	n.a.
10/26/09	1/31/2010	Skyline Telephone Company	Beaver Creek Telephone Company	n.a.	0.1	n.a.	n.a.	n.a.	n.a.	n.a.
10/26/09	12/31/2009	Midvale's Juntura & Harper Exchanges	Oregon Telephone	n.a.	0.2	n.a.	n.a.	n.a.	n.a.	n.a.
10/16/09	12/10/2009	Iowa Telecom Access Line	Wellman Cooperative Telephone	n.a.	0.0	n.a.	n.a.	n.a.	n.a.	n.a.
10/9/09	1/31/2010	Lowry Telephone Company	Runestone Telephone Association	n.a.	0.8	n.a.	n.a.	n.a.	n.a.	n.a.
9/25/09	10/28/2009	Miller Telephone Company	Winnebago Cooperative	n.a.	0.1	n.a.	n.a.	n.a.	n.a.	n.a.
9/16/09	10/26/2009	Midvale Telephone Exchange	Midvale ESOP	n.a.	3.0	n.a.	n.a.	n.a.	n.a.	n.a.
9/8/09	12/1/2009	Lexcom	Windstream	141.0	23.0	44.0	3,205	3.2x	5.9x	4.9x
8/12/09	12/31/2009	Ardmore Telephone Company	Synergy Technology Partners	n.a.	8.4	n.a.	n.a.	n.a.	n.a.	n.a.
8/4/09	12/1/2009	Union Telephone	Telephone & Data Systems	13.2	6.5	8.5	1,553	2.2x	8.6x	4.9x
7/16/09	7/1/2009	Allendale Communications	Ace Communications	n.a.	6.5	n.a.	n.a.	n.a.	n.a.	n.a.
7/15/09	9/15/2009	Home Telephone	Arvig Enterprises	n.a.	0.6	2.7	n.a.	n.a.	n.a.	n.a.
6/25/09	9/1/2009	Pymatuning Independent Telephone	Townes Tele-communications	n.a.	2.1	n.a.	n.a.	n.a.	n.a.	n.a.
5/20/09	10/30/2009	Bruce Telephone Company	Fail Communications	n.a.	2.6	n.a.	n.a.	n.a.	n.a.	n.a.
5/14/09	8/31/2009	Delavan Telephone Company	Blue Earth Valley Communications	n.a.	0.3	n.a.	n.a.	n.a.	n.a.	n.a.
5/13/09	7/1/2010	Verizon (rural lines in 14 states)	Frontier Communications	8,579.8	4,800.0	5,869.0	1,462	2.0x	4.5x	3.5x
5/11/09	11/10/2009	D&E Communications	Windstream	330.0	164.6	217.4	1,518	2.2x	5.1x	3.7x
3/26/09	11/1/2009	North River Telephone Cooperative	Shenandoah Telecommunications	0.6	1.0	n.a.	600	n.a.	n.a.	n.a.
1/12/09	5/1/2009	Midvale's Connor Creek Exchange	Eagle Telephone System	n.a.	0.0	n.a.	n.a.	n.a.	n.a.	n.a.
1/12/09	3/31/2009	Richmond Telephone Company	CornerStone Telephone Company	n.a.	1.1	n.a.	n.a.	n.a.	n.a.	n.a.
11/21/08	7/1/2009	Sherburne Tele Systems	Iowa Telecommunications	73.9	25.7	42.9	1,723	2.5x	6.5x	n.a.
10/30/08	10/30/2008	Piedmont Telephone Membership Corp.	Surry Telephone Membership Corp.	n.a.	3.0	n.a.	n.a.	n.a.	n.a.	n.a.
10/27/08	7/1/2009	EMBARQ	CenturyTel	13,200.0	5,853.0	7,241.0	1,823	2.1x	5.1x	4.6x
10/24/08	12/11/2008	State Long Distance	Telephone & Data Systems	27.0	9.3	11.5	2,348	2.9x	6.5x	6.4x
8/7/08	11/4/2008	Country Road Communications	Otelco	101.3	18.7	111.6	n.a.	3.2x	8.1x	7.0x
7/16/08	Terminated	Margaretville Telephone Company	American Broadband	n.a.	4.2	5.3	n.a.	n.a.	n.a.	n.a.
5/22/08	8/1/2008	Western Telephone Company	Venture Communications Cooperative	n.a.	1.1	n.a.	n.a.	n.a.	n.a.	n.a.
5/21/08	8/15/2008	Lincolnville Telephone Company	Shepard Hill	n.a.	12.5	n.a.	n.a.	n.a.	n.a.	n.a.
3/13/08	12/31/2008	Yukon-Waltz Telephone Company	Laurel Highland Total Communications	n.a.	0.9	n.a.	n.a.	n.a.	n.a.	n.a.

Attachment 1 - Observed Deals: Incumbent Local Exchange Carriers

3/10/08	5/31/2008	Mosinee Telephone Company	Telephone & Data Systems	17.3	4.9	5.9	2,923	2.9x	9.7x	6.8x
3/6/08	10/31/2008	Swisher Telephone Company (TAC)	South Slope Communications	n.a.	0.9	n.a.	n.a.	n.a.	n.a.	n.a.
3/6/08	5/15/2008	Swisher Telephone Company	Telephone Acquisition Company	n.a.	0.9	n.a.	n.a.	n.a.	n.a.	n.a.
2/24/08	8/4/2008	Blackduck Telephone	Paul Bunyan Rural Telephone Coop.	7.0	1.9	n.a.	n.a.	n.a.	n.a.	n.a.
2/7/08	7/18/2008	Bishop Communications	Iowa Telecommunications	43.9	12.0	25.0	1,756	2.3x	7.6x	n.a.
1/3/08	12/1/2008	Citizens Telephone of Brevard N.C.	Comporium	n.a.	20.8	27.3	n.a.	n.a.	n.a.	n.a.
12/21/07	2/13/2008	West Point Telephone	Telephone & Data Systems	6.6	0.8	n.a.	3,307	n.a.	n.a.	n.a.
11/9/07	1/4/2008	Graceba Total Communications	Knology	75.0	4.5	25.7	2,917	3.8x	9.0x	7.5x
10/17/07	1/31/2008	Mount Angel Telephone	Canby Telcom	n.a.	1.9	n.a.	n.a.	n.a.	n.a.	n.a.
10/17/07	12/31/2007	Shell Rock Telephone	Butler-Bremer Mutual Telephone	n.a.	1.0	n.a.	n.a.	n.a.	n.a.	n.a.
10/15/07	6/3/2008	United Companies	GCI	77.0	6.0	n.a.	n.a.	3.0x	10.1x	6.8x
10/8/07	11/30/2007	Bayland Telephone	Nsight	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
9/19/07	11/30/2007	Lafourche Telephone	Boston Ventures	60.0	13.3	16.4	3,663	3.0x	7.5x	6.6x
9/12/07	10/15/2007	Reserve Telephone	Sean and Kevin Reilly	n.a.	5.0	n.a.	n.a.	n.a.	n.a.	n.a.
8/17/07	11/30/2007	Cannon Valley Communications	Blue Earth Valley Communications	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
8/6/07	1/4/2008	Hutchinson Telephone	New Ulm Telecom	57.0	14.8	18.5	3,082	3.4x	11.0x	7.7x
7/19/07	7/4/2008	TelAlaska	American Broadband	n.a.	12.5	n.a.	n.a.	n.a.	n.a.	n.a.
7/5/07	11/1/2007	Global Valley Networks	Citizens Communications	62.0	15.0	18.8	3,307	2.9x	7.3x	6.4x
7/1/07	12/31/2007	North Pittsburgh Systems	Consolidated Communications	309.9	101.6	118.5	2,616	3.2x	8.8x	6.7x
5/29/07	8/31/2007	CT Communications	Windstream	470.0	157.0	186.0	2,527	3.3x	9.1x	6.4x
5/9/07	6/9/2007	Clarks Telecom	Northeast Nebraska Telephone	n.a.	0.9	n.a.	n.a.	n.a.	n.a.	n.a.
4/12/07	8/1/2007	Yates City Telephone Exchange	Mid-Century Telephone	2.5	0.5	n.a.	5,319	n.a.	n.a	n.a.
3/12/07	6/29/2007	Telephone Service Company	Hanson Communications	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3/2/07	4/1/2007	New Florence Telephone	Direct Communications - Rockland	n.a.	0.5	n.a.	n.a.	n.a.	n.a.	n.a.
1/24/07	3/1/2007	Mountain View Telephone	Yelcot	n.a.	7.2	n.a.	n.a.	n.a.	n.a.	n.a.
1/16/07	3/31/2008	Verizon Northern New England	FairPoint Communications	1,962.4	1,378.1	1,601.0	1,226	1.6x	5.6x	3.6x
1/9/07	4/3/2007	PrairieWave Communications	Knology	255.0	69.8	156.3	1,631	2.9x	7.5x	6.7x
1/5/07	6/29/2007	Hargray Communications	Quadrangle Capital Partners	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
12/18/06	4/30/2007	Madison River Communications	CenturyTel	830.0	185.6	239.2	3,156	4.0x	7.7x	6.6x
12/2/06	3/30/2007	Curtis Telephone	Consolidated Companies (NE)	n.a.	0.8	n.a.	n.a.	n.a.	n.a.	n.a.
11/29/06	10/6/2010	Innovative Communications	CFC	n.a.	66.0	n.a.	n.a.	n.a.	n.a.	n.a.
11/10/06	5/1/2007	North Dakota Telephone Exchange	SRT Communications	n.a.	0.7	n.a.	n.a.	n.a.	n.a.	n.a.
10/16/06	11/15/2006	Germantown Independent Telephone	FairPoint Communications	9.4	4.4	n.a.	2,140	2.8x	6.9x	n.a.
9/18/06	3/8/2007	Commonwealth Telephone	Citizens Communications	1,160.0	454.3	491.4	2,553	3.5x	7.1x	6.0x
6/27/06	11/3/2006	Hector Communications	Hector Acquisition Corporation	119.8	29.3	37.3	4,091	3.7x	8.1x	n.a.
5/31/06	7/27/2006	Rural Telephone Service Exchanges	Gorham Telephone	0.9	0.3	n.a.	3,147	3.5x	7.8x	n.a.
4/11/06	6/30/2006	Yorkville Telephone Cooperative	West Kentucky Telephone Cooperative	n.a.	1.8	n.a.	n.a.	n.a.	n.a.	n.a.
4/10/06	7/5/2006	Mid-Maine Communications	Otelco	18.8	18.5	n.a.	1,013	3.1x	6.9x	n.a.
4/3/06	3/31/2007	VZ's 52% Interest in Puerto Rico Tel	Movil S.A. de C.V.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3/22/06	12/19/2006	Qwest - New Mexico Territory	Sacred Wind Communications	n.a.	2.4	n.a.	n.a.	n.a.	n.a.	n.a.
3/5/06	12/30/2006	BellSouth	AT&T	53,827.0	20,037.0	22,919.0	2,686	2.9x	7.0x	n.a.
3/3/06	7/27/2006	12 Kansas Embarq Exchanges	Rural Telephone Service	17.0	5.4	n.a.	3,148	3.5x	8.7x	n.a.
1/27/06	6/30/2006	Rye Telephone & South Park Telephone	American Broadband	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1/25/06	7/26/2006	Cass County Telephone	FairPoint Communications	33.0	7.8	n.a.	4,231	3.1x	6.1x	n.a.
12/12/05	7/5/2006	Montezuma Mutual Telephone	Iowa Telecommunications	9.6	2.2	3.9	4,356	3.8x	7.0x	n.a.
12/9/05	7/17/2006	Alltel Wireline	Valor Communications Group	9,130.0	2,919.0	3,279.0	3,127	3.1x	6.4x	n.a.
12/1/05	7/7/2006	Dalton & Elsie Communications	American Broadband	n.a.	1.4	n.a.	n.a.	n.a.	n.a.	n.a.
11/28/05	2/1/2006	Stockholm-Strandburg Telephone	Interstate Telecommunications Coop	n.a.	0.7	0.9	n.a.	n.a.	n.a.	n.a.
11/22/05	2/1/2006	Laurel Telephone	Heart of Iowa Communications Coop	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
11/17/05	5/9/2006	HunTel Systems	American Broadband	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
10/31/05	5/1/2006	CenturyTel Arizona Exchanges	Hopi Telecommunications	6.0	2.0	n.a.	3,000	2.5x	7.1x	n.a.
10/21/05	2/1/2006	Iowa Telecom Exchange	Lost Nation-Elwood Telephone	0.3	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
8/1/05	12/1/2005	Qwest - New Mexico Exchanges	MATI	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
7/29/05	11/15/2005	Waverly Hall Telephone	American Broadband	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
7/27/05	1/1/2006	Gridley Telephone	American Broadband	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6/22/05	3/1/2006	13 Kansas Sprint Exchanges	Twin Valley Telephone	18.0	5.2	n.a.	3,461	3.9x	8.5x	n.a.
4/22/05	9/1/2005	Bentleyville Communications	FairPoint Communications	9.3	3.2	n.a.	2,906	2.6x	7.4x	n.a.
3/28/05	6/20/2005	Mid-South Telecommunications	American Broadband	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3/8/05	9/1/2005	Foresthill Telephone	Sebastian Enterprises	14.5	3.3	n.a.	4,461	3.6x	7.1x	n.a.
3/3/05	7/1/2005	Otter Tail Corporation	Arvig Enterprises	30.2	6.9	n.a.	4,359	4.0x	7.6x	n.a.
3/1/05	5/31/2006	Harmony Telephone	MSG Telephone	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1/27/05	4/30/2005	BellSouth Exchanges	Madison River Communications	6.3	3.6	n.a.	1,756	2.4x	4.8x	n.a.
12/20/04	5/5/2005	Sully Telephone Exchange	Reasnor Telephone	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
12/15/04	5/26/2005	Pymatuning Independent Telephone	American Broadband	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

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12/15/04	12/31/2004	Drenthe Telephone & Communications	Allendale Communications	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
9/29/04	1/26/2005	Tri-County Telcom	McCook Cooperative Telephone	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
9/9/04	12/31/2004	Guam Telephone Authority	Teleguam Holdings	147.0	65.0	n.a.	n.a.	n.a.	n.a.	n.a.
8/20/04	6/14/2005	Golden West Exchange	Alliance Communications Cooperative	2.9	0.6	n.a.	5,249	3.5x	7.0x	n.a.
8/20/04	10/8/2004	United Telephone	Blue Valley Tele-Communications	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
8/6/04	5/6/2005	Noonan Farmers Telephone	Northwest Communications Cooperative	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6/14/04	8/12/2004	Iowa Telecom Exchanges	Partner Communications	2.8	2.0	n.a.	1,379	n.a.	n.a.	n.a.
5/21/04	5/3/2005	Verizon Exchange	Carlyle Group	1,600.0	690.0	n.a.	2,318	2.7x	6.9x	n.a.
5/10/04	12/15/2004	Mid-Missouri Telephone Company	Otelco	37.5	4.1	n.a.	n.a.	n.a.	n.a.	n.a.
4/30/04	4/30/2004	PBT Telecom	Comporium	n.a.	18.3	n.a.	n.a.	n.a.	n.a.	n.a.
4/16/04	4/16/2004	Grandby Telephone	Country Road Communications	n.a.	3.0	n.a.	n.a.	n.a.	n.a.	n.a.
3/24/04	8/30/2005	Cal-Ore Telecommunications	Lynch Interactive	13.8	2.5	n.a.	5,520	2.4x	7.5x	n.a.
1/19/04	5/2/2005	NTELOS	Project Holdings	350.0	51.9	n.a.	6,743	3.0x	6.6x	n.a.
1/16/04	9/5/2004	Oregon Farmers Mutual Telephone	American Broadband	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1/16/04	4/15/2004	TXU Communications	Consolidated Communications	527.0	168.0	n.a.	3,137	3.1x	9.1x	6.9x
11/26/03	4/28/2006	Iowa Telecom Exchanges	Heart of Iowa Communications Coop	4.8	0.6	n.a.	8,000	n.a.	n.a.	n.a.
9/12/03	9/12/2003	Searsboro Telephone	Killduff Telephone	n.a.	0.1	n.a.	n.a.	n.a.	n.a.	n.a.
8/11/03	1/2/2004	Nehalem Telephone & Telegraph	Rural Telephone Company	n.a.	3.2	n.a.	n.a.	n.a.	n.a.	n.a.
7/10/03	7/10/2003	Sioux Valley Telephone	Golden West Telecommunications	n.a.	5.3	n.a.	n.a.	n.a.	n.a.	n.a.
7/10/03	7/10/2003	Hills Telephone	Alliance Communications Cooperative	n.a.	3.3	3.3	n.a.	n.a.	n.a.	n.a.
6/20/03	5/2/2005	Berkshire Telephone	FairPoint Communications	16.4	7.3	n.a.	2,246	2.7x	6.8x	n.a.
5/12/03	9/30/2003	FairPoint's SD properties	Golden West Telecommunications	24.0	4.1	n.a.	5,420	5.6x	8.5x	n.a.
5/2/03	6/30/2003	Blountsville Telephone	Seaport Capital	n.a.	3.8	n.a.	n.a.	n.a.	n.a.	n.a.
4/30/03	4/30/2003	Georgetown Telephone Company	American Broadband	n.a.	0.3	n.a.	n.a.	n.a.	n.a.	n.a.
4/18/03	12/1/2003	Community Service Telephone	FairPoint Communications	31.1	12.6	n.a.	2,552	3.8x	9.5x	n.a.
1/27/03	4/1/2003	Citizens Communications	Missouri Valley Communications	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
12/6/02	4/1/2003	Citizens Communications NDExchange	Missouri Valley Communications	n.a.	9.4	n.a.	n.a.	n.a.	n.a.	n.a.
12/6/02	4/1/2003	Citizens Communications ND Exchanges	Reservation Telephone Coop	n.a.	1.3	n.a.	n.a.	n.a.	n.a.	n.a.
11/1/02	2/1/2006	EMC	Direct Communications - Rockland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
9/18/02	1/1/2003	Baltic Telecom Cooperative	Alliance Communications Cooperative	n.a.	3.0	n.a.	n.a.	n.a.	n.a.	n.a.
8/31/02	8/31/2002	Verizon - Missouri Lines	CenturyTel	1,180.4	354.0	n.a.	3,199	4.0x	8.0x	n.a.
7/17/02	12/31/2002	Illinois Consolidated	Homebase Acquisition Corp	271.0	90.0	n.a.	n.a.	n.a.	n.a.	n.a.
5/15/02	9/30/2002	Dakota Telecommunications Group	PrairieWave Communications	n.a.	7.0	n.a.	n.a.	n.a.	n.a.	n.a.
3/31/02	3/31/2002	Oregon Telephone/ North State Tel	Direct Communications - Rockland	n.a.	2.5	n.a.	n.a.	n.a.	n.a.	n.a.
3/12/02	3/31/2002	Iowa Telecom Exchanges	Norway Rural Telephone Company	n.a.	0.7	n.a.	n.a.	n.a.	n.a.	n.a.
2/14/02	7/1/2002	Telcommunications Systems of NH	Telephone & Data Systems	n.a.	7.5	n.a.	n.a.	n.a.	n.a.	n.a.
1/15/02	1/15/2002	Accucom Telecommunications	Alltel	n.a.	4.8	n.a.	n.a.	n.a.	n.a.	n.a.
12/21/01	10/31/2002	Citizens Communications ND Exchanges	Dickey Rural Telephone Cooperative	n.a.	2.5	n.a.	n.a.	n.a.	n.a.	n.a.
12/21/01	10/31/2002	Citizens Communications ND Exchange	Polar Communications	n.a.	0.7	n.a.	n.a.	n.a.	n.a.	n.a.
12/21/01	10/31/2002	Citizens Communications ND Exchanges	Red River Rural Telephone Association	n.a.	1.1	n.a.	n.a.	n.a.	n.a.	n.a.
12/1/01	3/1/2002	Defiance and Manilla Telephone	Farmers Mutual Cooperative	n.a.	0.9	n.a.	n.a.	n.a.	n.a.	n.a.
11/21/01	5/24/2002	Conestoga Enterprises	D&E Communications	n.a.	85.0	n.a.	n.a.	n.a.	n.a.	n.a.
11/16/01	6/1/2002	MCT, Inc	Telephone & Data Systems	n.a.	18.7	n.a.	n.a.	n.a.	n.a.	n.a.
11/14/01	11/14/2001	Allendale Telephone Company	Allendale Telecom Ventures, LLC	n.a.	8.0	n.a.	n.a.	n.a.	n.a.	n.a.
11/9/01	11/9/2001	Miller Telephone Company	TelAtlantic Communications	n.a.	1.1	n.a.	n.a.	n.a.	n.a.	n.a.
10/31/01	7/31/2002	Verizon - Kentucky Lines	Alltel	1,906.0	600.0	n.a.	3,193	4.1x	7.6x	n.a.
10/22/01	7/1/2002	Verizon - Alabama Lines	CenturyTel	978.9	306.0	n.a.	3,199	4.0x	8.0x	n.a.
9/21/01	2/1/2002	Kerrville Communications	Valor Telecommunications LLC	n.a.	29.9	n.a.	n.a.	n.a.	n.a.	n.a.
9/1/01	9/1/2001	Cobbosseecontee Telephone	Telephone & Data Systems	n.a.	0.8	0.8	n.a.	n.a.	n.a.	n.a.
5/21/01	10/2/2001	Saco River Telegraph and Telephone	Country Road Communications	n.a.	10.5	n.a.	n.a.	n.a.	n.a.	n.a.
5/8/01	9/4/2001	Marianna and Scenery Hill Telephone	FairPoint Communications	n.a.	2.9	n.a.	n.a.	n.a.	n.a.	n.a.
5/1/01	9/4/2001	McLeodUSA - Consolidated IL Lines	FairPoint Communications	n.a.	2.7	n.a.	n.a.	n.a.	n.a.	n.a.
3/13/01	5/1/2001	Chippewa County Telephone	Hiawatha Communications	n.a.	1.7	n.a.	n.a.	n.a.	n.a.	n.a.
2/23/01	8/1/2001	Zenda Telephone Company	TelAtlantic Communications	n.a.	0.2	n.a.	n.a.	n.a.	n.a.	n.a.
2/23/01	1/29/2001	West Side Telecom (49.9% Interest)	TelAtlantic Communications	n.a.	2.8	n.a.	n.a.	n.a.	n.a.	n.a.
12/27/00	7/26/2001	Madison River Tel - IL Exchanges	Madison Telephone Company	n.a.	4.2	n.a.	n.a.	n.a.	n.a.	n.a.
11/27/00	9/4/2001	Chorus Communications	Telephone & Data Systems	n.a.	45.0	n.a.	n.a.	n.a.	n.a.	n.a.
11/6/00	11/6/2000	Camden Telephone Company (48.7%)	Telephone & Data Systems	52.5	12.1	n.a.	n.a.	n.a.	n.a.	n.a.
10/17/00	6/25/2001	Central Utah Telephone Company	Lynch Interactive	n.a.	7.7	n.a.	n.a.	n.a.	n.a.	n.a.
10/1/00	3/1/2001	Vista United Telecommunications	Smart City Networks	n.a.	17.0	n.a.	n.a.	n.a.	n.a.	n.a.
9/12/00	8/1/2001	Evans Telephone Company	Country Road Communications	n.a.	13.0	n.a.	n.a.	n.a.	n.a.	n.a.
9/12/00	5/18/2001	Valor - Apache Reservation Assets	Mescalero Tribe	n.a.	0.9	n.a.	n.a.	n.a.	n.a.	n.a.
7/21/00	8/6/2001	Amana Colonies Telephone	South Slope Cooperative	n.a.	1.5	n.a.	n.a.	n.a.	n.a.	n.a.
7/19/00	7/19/2000	Brindlee Mountain Telephone Company	CEA Capital - Seaport Capital	n.a.	13.0	n.a.	n.a.	n.a.	n.a.	n.a.

Attachment 1 - Observed Deals: Incumbent Local Exchange Carriers

7/12/00	6/30/2001	Global Crossing - Frontier Comm.	Citizens Communications	n.a.	1,100.0	n.a.	n.a.	n.a.	n.a.	n.a.
7/3/00	7/3/2000	Comerco - Yelm Telephone Company	FairPoint Communications	72.3	12.7	n.a.	n.a.	n.a.	n.a.	n.a.
6/21/00	1/2/2001	Saco River Telegraph and Telephone	Rural Cellular Communications	190.0	10.0	n.a.	n.a.	n.a.	n.a.	n.a.
5/18/00	2/13/2001	R&B Communications	NTELOS	77.6	12.5	n.a.	n.a.	n.a.	n.a.	n.a.
5/16/00	6/9/2000	Hager Telecom	Alliance Telecommunications	9.1	2.0	n.a.	n.a.	n.a.	n.a.	n.a.
4/25/00	6/1/2000	Freemont Telecom	FairPoint Communications	n.a.	6.3	n.a.	n.a.	n.a.	n.a.	n.a.
3/13/00	5/31/2000	Fort Bend Communications Companies	TXU Communications	n.a.	41.0	n.a.	n.a.	n.a.	n.a.	n.a.
12/29/99	4/3/2000	Peoples Mutual Telephone Company	FairPoint Communications	n.a.	7.6	n.a.	n.a.	n.a.	n.a.	n.a.
12/29/99	4/3/2000	TPG Communications	FairPoint Communications	n.a.	52.0	n.a.	n.a.	n.a.	n.a.	n.a.
12/23/99	4/30/2000	Southeast Telephone Co. of WI	Telephone & Data Systems	n.a.	10.0	n.a.	n.a.	n.a.	n.a.	n.a.
12/16/99	11/30/2000	Verizon (GTE) - Illinois	Citizens Communications	303.0	113.0	n.a.	2,832	n.a.	n.a.	n.a.
11/23/99	3/30/2000	Coastal Utilities	Madison River Telephone Company	n.a.	38.0	n.a.	n.a.	n.a.	n.a.	n.a.
10/26/99	6/30/2000	Verizon (GTE) - Oklahoma	Valor Telecommunications Southwest	360.0	120.0	n.a.	3,000	n.a.	n.a.	n.a.
10/1/99	10/1/1999	Mid-Missouri Telephone Company	CEA Capital Partners	n.a.	6.1	n.a.	n.a.	n.a.	n.a.	n.a.
10/1/99	10/1/1999	Orwell Telephone	MJD Communications	n.a.	6.8	n.a.	n.a.	n.a.	n.a.	n.a.
9/21/99	6/30/2000	Verizon (GTE) - Nebraska	Citizens Communications	204.0	61.0	n.a.	3,458	n.a.	n.a.	n.a.
9/7/99	9/1/2000	Verizon (GTE) - New Mexico	Valor Telecommunications Southwest	322.0	95.0	n.a.	n.a.	n.a.	n.a.	n.a.
9/7/99	9/1/2000	Verizon (GTE) - Texas	Valor Telecommunications Southwest	1,074.5	325.0	n.a.	n.a.	n.a.	n.a.	n.a.
8/19/99	9/29/2000	Verizon (GTE) - Wisconsin	CenturyTel	186.6	70.5	n.a.	2,736	4.4x	8.3x	n.a.
8/19/99	9/29/2000	Verizon (GTE) - Wisconsin	CenturyTel/ Telephone USA Investments	177.4	62.9	n.a.	2,736	4.4x	8.3x	n.a.
8/10/99	4/6/2001	Qwest - Utah Lines	Manti/Centr. Utah/UBTA/Emory/All West	90.0	35.0	n.a.	n.a.	n.a.	n.a.	n.a.
8/10/99	12/1/2000	Qwest - South Dakota Lines	Sulley Buttes/ Venture Communications	n.a.	2.4	n.a.	n.a.	n.a.	n.a.	n.a.
7/8/99	7/31/2000	Verizon (GTE) - Missouri	Spectra Communications - CenturyTel	290.0	127.0	n.a.	2,283	n.a.	n.a.	n.a.
7/1/99	6/30/2000	Verizon (GTE) - Iowa	Iowa Telecommunications	952.0	280.0	n.a.	3,400	5.0x	9.0x	n.a.
7/1/99	7/1/1999	Aliant Communications	Alltel	n.a.	285.0	n.a.	n.a.	n.a.	n.a.	n.a.
7/1/99	7/1/1999	Central Scott Telephone Company	Lynch Interactive	n.a.	6.0	n.a.	n.a.	n.a.	n.a.	n.a.
7/1/99	7/1/1999	Gulf Telephone	Madison River Telephone Company	n.a.	48.0	n.a.	n.a.	n.a.	n.a.	n.a.
7/1/99	7/1/1999	Hopper Telephone	CEA Capital Partners	n.a.	3.6	n.a.	n.a.	n.a.	n.a.	n.a.
7/1/99	7/1/1999	Yates City Telephone	MJD Communications	n.a.	1.1	n.a.	n.a.	n.a.	n.a.	n.a.
6/29/99	7/31/2000	Verizon (GTE) - Arkansas	CenturyTel	824.0	231.0	n.a.	3,947	5.1x	9.1x	n.a.
6/15/99	10/31/2000	Qwest - North Dakota Lines	Citizens Communications	n.a.	17.3	n.a.	n.a.	n.a.	n.a.	n.a.
5/27/99	8/31/2000	Verizon (GTE) - Minnesota	Citizens Communications	454.4	133.0	n.a.	3,550	5.0x	9.0x	n.a.
5/27/99	8/31/2000	Verizon (GTE) - Alaska	ATEAC	50.0	21.0	n.a.	2,400	n.a.	n.a.	n.a.
5/15/99	1/19/2000	Pine Tree Telephone and Telegraph Co.	Country Road Communications	n.a.	7.0	n.a.	n.a.	n.a.	n.a.	n.a.
4/1/99	4/1/1999	Anchorage Telephone Utilities	Alaska Communications Systems	n.a.	168.0	n.a.	n.a.	n.a.	n.a.	n.a.
4/1/99	4/1/1999	CenturyTel - Alaska Operations	Alaska Communications Systems	n.a.	131.0	n.a.	n.a.	n.a.	n.a.	n.a.
4/1/99	4/1/1999	Union Telephone	MJD Communications	n.a.	2.6	n.a.	n.a.	n.a.	n.a.	n.a.
1/1/99	1/1/1999	Standard Telephone	Alltel	n.a.	68.0	n.a.	n.a.	n.a.	n.a.	n.a.
1/1/99	1/1/1999	Columbus Grove Telephone	MJD Communications	n.a.	1.9	n.a.	n.a.	n.a.	n.a.	n.a.
1/1/99	1/1/1999	Dakota Telecommunications Group	McLeodUSA	n.a.	7.3	n.a.	n.a.	n.a.	n.a.	n.a.
1/1/99	1/1/1999	Oneonta Telephone	CEA Capital Partners	n.a.	7.0	n.a.	n.a.	n.a.	n.a.	n.a.
1/1/99	1/1/1999	Ravenswood	MJD Communications	n.a.	2.1	n.a.	n.a.	n.a.	n.a.	n.a.

Notes: Information obtained from FCC, PUC and SEC filings as well as other publicly available information. Some amounts estimated. **Terminated** = previously announced deal terminated or withdrawn. **BEV** = JSICA estimate of total purchase price allocable to wireline operations. **A/L** = includes ILEC and CLEC lines. **Conn** = connections including ILEC and CLEC access lines, DSL and high-speed data subscribers and video subscribers. **T_OIBDA** = reported or estimated trailing twelve month operating income before depreciation and amortization. **P_OIBDA** = Projected or normalized annual operating income before depreciation and amortization.

CERTIFICATE OF SERVICE

I hereby certify that a copy of the Associations' Comments was served this 25th day of July, 2013 by electronic filing and e-mail to the persons listed below.

By: /s/ Elizabeth R. Newson
Elizabeth R. Newson

The following parties were served:

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