BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

IN THE MATTER OF UBTA-UBET COMMUNICATIONS, INC.'S (DBA STRATA NETWORKS) APPLICATION FOR UTAH UNVERSAL SERVICE FUND SUPPORT	**DOCKET NO.** 15-053-01 STRATA Exhibit 3R

REBUTTAL TESTIMONY OF DOUGLAS DUNCAN MEREDITH

November 3, 2015

Introduction

Q: Please state your full name, place of employment and position.

A: My full name is Douglas Duncan Meredith. I am employed by John Staurulakis, Inc. ("JSI") as Director – Economics and Policy. JSI is a telecommunications consulting firm headquartered in Greenbelt, Maryland. My office is located at 547 Oakview Lane, Bountiful, Utah 84010. JSI has provided telecommunications consulting services to local exchange carriers since 1963.

Q: Please describe your professional experience and educational background.

A: As the Director of Economics and Policy at JSI, I assist clients with the development of policy pertaining to economics, pricing and regulatory affairs. I have been employed by JSI since 1995. Prior to my work at JSI, I was an independent research economist in the District of Columbia and a graduate student at the University of Maryland – College Park.

In my employment at JSI, I have participated in numerous proceedings for rural and non-rural telephone companies. These activities include, but are not limited to, the creation of forward-looking economic cost studies, the development of policy related to the application of the rural safeguards for qualified local exchange carriers, the determination of Eligible Telecommunications Carriers, the sustainability and application of universal service policy for telecommunications carriers, as well as supporting incumbent local exchange carriers in arbitration proceedings and rural exemption and suspension and/or modification proceedings.

In addition to assisting telecommunications carrier clients, I have served as the economic advisor for the Telecommunications Regulatory Board of Puerto Rico since 1997. In this capacity, I provide economic and policy advice to the Board Commissioners on all telecommunications issues that have either a financial or economic impact on carriers or end-users. I have participated in a number of arbitration panels established by the Board

to arbitrate interconnection issues under Section 252 of the Telecommunications Act of 1996.

I am participating or have participated in numerous national incumbent local exchange carrier and telecommunications groups, including those headed by NTCA, USTelecom, and the Rural Policy Research Institute. My participation in these groups focuses on the development of policy recommendations for advancing universal service and telecommunications capabilities in rural communities and other policy matters.

I have a Bachelor of Arts degree in economics from the University of Utah, and a Masters degree in Economics from the University of Maryland – College Park. While attending the University of Maryland – College Park, I was also a Ph.D. candidate in Economics, having completed all coursework, comprehensive and field examinations for a Doctorate of Economics.

Q: Have you testified previously in federal and state regulatory proceedings on telecommunications issues?

A: Yes. I have testified live or in pre-filed regulatory testimony in various states including Utah, Colorado, Maine, Vermont, New Hampshire, New York, Michigan, Wisconsin, North Dakota, South Dakota, Texas, South Carolina, Tennessee, and Kentucky. I have also participated in regulatory proceedings in many other states that did not require formal testimony, including Florida, Louisiana, Mississippi, Puerto Rico and Virginia. In addition to participation in state regulatory proceedings, I have participated in federal regulatory proceedings through filing of formal comments in various proceedings and submission of economic reports in an enforcement proceeding.

Q: On whose behalf are you testifying in this proceeding?

A: I am testifying on behalf of UBTA-UBET Communications, Inc.'s (DBA Strata Networks) ("STRATA").

Q: What is the purpose of your testimony?

A. The purpose of my testimony is to address the two issues discussed in Direct Testimonies offered by the Office of Consumer Services and the Division of Public Utilities. I will address the rate of return issue and the proposed treatment of depreciation expense. In their testimonies, these parties propose modifications to STRATA's Application for Increase in Utah Universal Service Fund ("Utah USF") support. In this testimony, I recommend that the Commission reject or modify many of these proposed modifications. Specifically, I will address the testimonies of:

- Casey Coleman, Division of Public Utilities;
- David Brevitz, Office of Consumer Services ("Office"); and,
- Paul Hicken, Division of Public Utilities

Q. Have you reviewed the testimony of the individuals you have identified above?

A. Yes. I have reviewed all of the testimony filed in this docket.

Rate of Return

Q: STRATA proposed using an overall weighted cost of capital of 9.5 percent. Has the testimony of Messrs. Brevitz and Coleman provided any reasonable data to suggest that STRATA's 9.5 percent proposal should be changed?

A: No. There is one adjustment that I agree with; however, this change does not affect the overall rate of return proposed by STRATA. Consequently, I recommend the Commission adopt STRATA's proposed weighted cost of capital rate of 9.5 percent.

Q: In his testimony on behalf of the Office, Mr. Brevitz argues that the Utah Public Service Commission should take guidance from a number of cases in Kansas regarding the appropriate rate of return to be used by STRATA. Do you agree that the Kansas information is helpful in informing the Commission on this issue?

A: Not at all. While Mr. Brevitz alludes that his Kansas cases were fully vetted, his testimony actually indicates that only one case (LaHarpe 2012) was fully reviewed and litigated. In

all other cases, the cases ended with a stipulation. Furthermore, we have no information from Mr. Brevitz that the LaHarpe case thoroughly reviewed the various standard methods to determine return on equity. So I discount these citations and urge the Commission to give them little if any weight. We simply don't have any information suggesting that the rate used for the return on equity was fully examined in the cited Kansas cases, especially absent is any reference or citation from the Commission about its evaluation and determination of the rate of equity in the LaHarpe case.

Q: Please describe what a small company premium is and how it is used.

A: A small company premium is an adjustment to the calculated rate of equity and is designed to account for the fact that access to equity is more constrained as companies get smaller and that the publicly traded companies used as a proxy for a small company like STRATA do not accurately represent the experience of small companies. Thus, due to various factors, access to capital requires a premium over a return on equity for much larger companies. The principal factors supporting a small company premium are constrained capital for small companies and an inappropriate set of proxy companies when using the Capital Asset Pricing Model ("CAPM").

A description of the CAPM is the following:

> The CAPM is a finance model used to determine a theoretically appropriate required rate of return of an asset, if that asset is to be added to an already well-diversified portfolio, given that asset's non-diversifiable risk. The model takes into account the asset's sensitivity to non-diversifiable risk (also known as systematic risk or market risk), often represented by the quantity beta (β) in the financial industry, as well as the expected return of the market and the expected return of a theoretical risk-free asset. CAPM "suggests that an investor's cost of equity capital is determined by beta. (Wikipedia®)

Q: Mr. Brevitz argues that a small company adjustment is not necessary or appropriate in this proceeding. What is your opinion of the use of small company adjustments when using a peer group whose members are much larger than the target company?

A: I disagree with Mr. Brevitz on the application of small company adjustments. A small company adjustment or more specifically a size adjustment is a common adjustment that is used when examining small companies. The outright rejection of this adjustment by Mr. Brevitz appears strident and unreasonably designed to simply produce a low rate of return for STRATA.

The main points made by Mr. Brevitz ignore the central purpose of a small company premium. The model proposed by the Division is a simple CAPM. The CAPM used by Mr. Coleman uses a set of companies intended to be proxies for STRATA. Mr. Brevitz provides no original research on the rate of return using any other model.

The selection of proxies is vital to the operation of the CAPM. The selected proxies are intended to represent the subject company. In this proceeding the Division's selected proxies do not represent the conditions faced by STRATA. All but one of the proxy companies are significantly larger than STRATA. Consequently, a small company premium is appropriate to account for the very poor availability of proxy companies and adjust for serious capital constraints faced by small companies.

Mr. Brevitz notes the instance of delisting bias and other research about optimal market behavior. All of this is really beside the point. Delisting companies are carriers that are generally much larger and that have access to adequate capital sources; further, a small company premium when applied to extremely small and constrained companies doesn't imperil Mr. Brevitz' rational expectation of an efficient market. (Brevitz, Lines 297-479) I also note that Mr. Brevitz' attempt to apply electric utility data to telephone companies should also be rejected because STRATA is not an electric utility and electric utilities are fundamentally distinct from telephone carriers. (Brevitz, Lines 518-525). A small company premium is used to account for instances where a small company operates that isn't reflected in the operations of much larger companies. This is a standard adjustment to the CAPM.

Q: Does the market and academic research reject small company premiums?

A: No. The small company premium is a standard tool used on Wall Street. The Morningstar/Ibbotson Annual Yearbook routinely reports an adjustment that would be applied to a company based on market capitalization. Depending on the size of the company, the size premium ranges from a negative adjustment of 38 basis points for very large companies to a positive adjustment of 6.10 percent for the smallest of companies. In a presentation entitled "Telcom Cost of Capital Issues: January 1, 2012", Dr. Hal. B. Heaton (BYU Professor, Stanford Ph.D.) describes a size premium as a "minimum adjustment" to be used when applying the standard Capital Asset Pricing Model (CAPM). (Rebuttal Testimony of D Meredith Exhibit 1- PDF page 18)

Furthermore, on July 25, 2013 Dr. Billingsley (Virginia Polytechnic Institute & State University Associate Professor, Texas A&M Ph.D.) examined a Federal Communications Staff report on rate of return that was proposed for rate-of-return carriers.[1] Dr. Billingsley recommends using the Duff & Phelps, another established and well respected company specializing in valuation and corporate finance, small company adjustment. This process yielded a 5.32 percent increase for mid-sized carriers and a 7.11 percent increase for smaller rate-of-return carriers. Dr. Billingsley summarizes the impact of ignoring the size effect as follows:

> 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 percent for the mid-sized carrier subsample, and 6.90 percent for the RoR subsample of companies. 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 percent for the mid-sized carrier subsample, and 14.01 percent for the RoR [Rate of Return] subsample of companies.

[1] Mr. Brevitz argues incorrectly the date of Dr. Billingsley's study is January 18, 2012 (Line 227). This earlier date is referenced in footnote 5 in Rebuttal Testimony of D Meredith Exhibit 2 - PDF page 47 and refers an earlier work.

> Consistent with the empirical evidence on the size effect, the [FCC's] 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. (Rebuttal Testimony of D Meredith Exhibit 2 - PDF page 55-56).

Also included as Rebuttal Testimony of D Meredith Exhibit 3 is the Federal Communications Commission Staff Report that is the subject of this critique. A small company adjustment or premium should be an adjustment adopted by the Commission to evaluate the rate of equity for a small rural carrier in Utah.

Q: Mr. Brevitz argues that the Billingsley Report is dated and should not be used. What is your response?

A: Mr. Brevitz' claim is ironic since the only information he presents to the Commission is a set of KS orders, where the only possible case that litigated the rate of return is from 2012 – earlier than the Billingsley Report. My use of the Billingsley report is to show that small company premiums are standard tools used in the development of a rate of return for companies that are not participating in the capital markets.

Q: Is it your testimony that the 9.50 percent rate of return should be used in this proceeding?

A: Yes. There is more than enough data to support the 9.50 percent rate of return based on the information in this proceeding and filed at the Federal Communications Commission.

Q: Please explain the information you reviewed in reaching your recommendation that 9.50 percent is a rate of return that best balances the public interest and provides adequate return for STRATA's long-term infrastructure projects.

A: First is the volume of information filed at the FCC and the FCC's actions in a docket to examine the interstate rate of return. As I mentioned earlier, in 2013 the FCC examined whether it should change its prescribed rate of return used for investments assigned to the interstate jurisdiction. Currently the authorized rate of return used by the FCC is 11.25 percent. The FCC staff issued a report (Rebuttal Testimony of D Meredith Exhibit 3). In this staff report, the recommended range for a rate of return was 7.39 percent to 8.72 percent. What should inform the Commission in this proceeding is the fact that the FCC did not accept the conclusions of the staff report. The rebuttals of the staff report provided by NTCA, et al. (Rebuttal Testimony of D Meredith Exhibit 2) and the Rural Broadband Alliance (Rebuttal Testimony of D Meredith Exhibit 4) leveled a broadside against the staff findings to the extent that the FCC has let the issue remain dormant for two years and no action has been taken.

The NTCA report showed various errors in the staff report and also recommended an alternative to the Discounted Cash Flow ("DCF") method that uses small company data to calculate a rate of return—these data are from purchases of small carriers across the country. The NTCA report demonstrates that the 11.25 percent rate of return is in fact too low. (Using other methods, the Rural Broadband Alliance examination demonstrates the same and applies a 6 percent small company adjustment on pages 18-23). So, from the FCC's docket we have one staff report that was thoroughly rebutted. The findings of the two industry rebuttals demonstrate that the 11.25 percent rate of return is low for small rural carriers and if any change were to be made, this rate of return should increase. In light of the evidence, the FCC has let the issue remain idle and the authorized prescribed interstate rate of return for rural carriers remains set at 11.25 percent.

Q: Has the FCC proposed a change in its overall weighted cost of capital for use in its federal high cost universal service reform?

A: Yes. The FCC has released a forward-looking economic cost model that will be offered to rural carriers to calculate their amount of federal universal service support for the next ten years. Carriers will be allowed to elect voluntarily this model support in lieu of their current federal high cost support. For carriers not selecting a model, the FCC has other

reform proposals include modifying the amount of support from the FCC based on legacy investment and future investment. In the legacy support discussions, the overall rate of return being discussed is between 9.50 percent and 11.25 percent. Thus, the most recent information from the FCC, the expert agency regulating rural carriers in the interstate jurisdiction, has discussed that the going-forward rate of return for rural carriers falls in a range at or above the rate proposed by STRATA. The FCC has not taken official action yet on this matter, but this information from the FCC suggests that the STRATA rate proposal is reasonable and that the proposed reductions by Mssrs. Coleman and Brevitz are unreasonable.

Q: What should the Commission take from the FCC's proceeding examining the same issue raised by the Division and the Office?

A: First, the Commission should recognize that the FCC's docket has a wealth of information about the procedures and pitfalls in determining a rate of return. (The exhibits I have supplied provide the details needed to adjust CAPM for size and liquidity and in producing a levered beta, etc.)

Second, the Commission should conclude that it should take no action to change the interstate authorized prescribed rate of return after an exhaustive review demonstrates that the 9.50 percent rate of return provides a reasonable incentive for equity to freely flow to carriers, like STRATA, whose aim is to invest in long-term infrastructure projects in the provision of telecommunications service regulated by the state. The FCC as an expert agency in regulating telecommunications carriers has examined the issues, pro and con, and has deferred from taking actions to lower its prescribed rate of return. This fact should inform the Commission and provide sufficient support for retaining STRATA's 9.50 percent rate of return proposal in this proceeding.

Finally, the rebuttals to the FCC's staff report show that calculating a rate of return for carriers that are not publicly traded on a stock market challenges the standard financial models, especially when there are so few companies with public information. Traditional methods of calculating a rate of equity for small companies has a tendency to understate

the lack of access to equity markets and the corresponding return that is necessary to attract equity to remote locations in Utah.

Based on this information alone, the Commission can reach the conclusion that a 9.50 percent rate of return is reasonable and properly balanced.

Q: Mr. Coleman provides his results using a simple CAPM. What observations have you made concerning Mr. Coleman's application of the CAPM?

Peer Group

A: First, the CAPM is very sensitive to the selected peer group of publicly traded companies. The CAPM methodology assigns a risk premium based on this peer group to calculate a return on equity. So, the selection of similarly situated companies to be used for comparison is very important. Mr. Coleman uses 13 companies in his peer group. Examining this peer group shows serious problems that should give the Commission reservations in using his peer group.

1. HickoryTech was purchased by Consolidated Communications on October 16, 2014 so this company cannot be in the peer group.
2. Alteva isn't a reasonable peer since the majority of its revenues is generated from its VoIP operations and wireless partnership (which was sold in 2014), and not its small ILEC operations.
3. Atlantic Tele Network does not have ILEC operations and its primary wireline operations are in Guyana. It also has a good portion of revenues generated from wireless operations.
4. Earthlink is not a good fit since it doesn't have ILEC operations.
5. IDT is not a good fit since it doesn't have ILEC operations.

Moreover, the size of the remaining companies dwarfs STRATA and without adjustment the CAPM results cannot be reasonably applied to STRATA. In Table 1, I show the access line counts for the biggest set of operationally similar companies that can create a peer group. Table 1 includes more companies than what Mr. Coleman used. I presume Mr.

Coleman didn't think that Verizon or AT&T are peers to STRATA and he excluded these from his analysis. I include them to reflect their operations as the largest ILECs in the nation (I also recommend applying adjustments to better reflect STRATA).

Table 1

Company	Exchange	Ticker	Access Lines 6/30/2015
Verizon	NYSE	VZ	19,079,000
AT&T	NYSE	T	18,116,000
CenturyLink	NYSE	CTL	12,100,000
Frontier Communications	NYSE	FTR	3,476,000
Windstream	NSDQ	WIN	1,828,900
Fairpoint Communications	NSDQ	FRP	768,222
Telephone & Data Systems	NYSE	TDS	510,800
Consolidated Communications	NSDQ	CNSL	493,540
Cincinnati Bell	NYSE	CBB	389,000
Alaska Communications	NSDQ	ALSK	119,432
Lumos Networks	NSDQ	LMOS	105,298
Otelco	NSDQ	OTEL	59,506
New Ulm Telecom (distressed)	OTCBB	NULM	26,570
Shenandoah Telecommunications	NSDQ	SHEN	21,615

Source: JSI Capital Advisors

Also, as noted by Dr. Billingsley, some of these companies are distressed or are in bankruptcy, thereby affecting their beta value (FTR and NULM). The following companies (WIN, ALSK, OTEL) all report negative beta values using October 27, 2015 Yahoo Finance reports (the same source use by Mr. Coleman but more current since Mr. Coleman uses July 29, 2015. Mr. Coleman doesn't explain why his date is preferred over the most recent data available). These companies should be removed from the peer group.

Mr. Coleman is lukewarm endorsing his CAPM for this proceeding assigning it to a "comfortable" status given that the Division found no other suitable alternative. Without adjusting the CAPM, I recommend the Commission reject Mr. Coleman's CAPM as unable to "produce credible results" and that the CAPM "must adjust for unusual economic

circumstances" such as size and a highly irregular interest rate market. (Rebuttal Testimony of D Meredith Exhibit 1, PDF page 21, observation of Dr. Heaton on using the CAPM).

Treasury Rates

Another set of pitfalls I see in the testimony provided by Mr. Coleman is that he uses spot rates for the inputs used in his CAPM. A generally accepted practice is to trend these over a period of time to smooth out normal and expected fluctuations in the market. Data from the U.S Department of Treasury reports that the trend for the three-month T-Bill from 1990-Octboer 27, 2015 is 3.02 percent, and the trend for the twenty-year T-Bond is 4.99 percent. These trends are based on all the data available online at the Department of Treasury and correspond generally to other data analysis I have examined and include in my testimony.

In Graph 1, I illustrate the 20-year yield over time and in this graph, the abnormally low yield since 2009 is clearly illustrated. I propose the Commission use the Department of Treasury 20-year T-Bond rate of 4.99 percent that was generated over the 1990-October 2015 timeframe. This corresponds to the recommendation of using an historic 4 to 5 percent value to represent a more "normal" 20-year yield. Dr. Billingsley suggests this in his review as does Dr. Heaton.

Graph 1

Source: Federal Reserve of St. Louis - Federal Reserve Economic Data (FRED) website.

Small Company Adjustment

Mr. Coleman fails to adjust his results with a small company adjustment, perhaps because he excluded the two largest carriers in the nation in his peer group. It should be obvious that a small company such as STRATA is challenged in the national equity markets when compared with much larger companies in the marketplace. This is illustrated by the fact that there are only 14 publicly traded ILEC peers in the nation. There are 1,101 small company study areas in the nation and observing a very small number of these companies in the national equity markets demonstrates that small companies such as STRATA do not have easy access to the equity markets.

Liquidity Premium

Another adjustment to Mr. Coleman's CAPM is the recognition of a liquidity premium. This is discussed in some detail by Dr. Heaton and his conclusion is that CAPM "must adjust for differences" between securities [size] and illiquid property." (Rebuttal Testimony of D Meredith Exhibit 1, PDF page 21)

Leverage Adjustment

Lastly, adjusting for the leverage of a company, by adjusting the beta to account for leverage, is another standard tool when using CAPM. The levered beta equals the product of the unlevered beta and the expression (1+ (1-effective tax rate)x(Debt%/Equity%)).

Q: Have you been able to adjust the Division's CAPM analysis to account for these adjustments?

A: Yes, except for the liquidity premium. I have adjusted the peer group; gathered historic T-Bill and T-Bond rates Treasury rates; updated the beta values for the peer group; gathered the data to produce a levered beta; and used a very conservative value of 3 percent for the small company premium. Table 2 reports the results of an intrastate cost of equity of 16.76 percent.

Table 2

Company	Access Lines 6/30/2015	Oct 27th Spot Beta	CAPM unadjusted	Tax	Debt %/Equity %	Levered Beta	Levered CAPM
Verizon	19,079,000	0.5876	6%	22%	8.9881	4.7232	26.61%
AT&T	18,116,000	0.5423	6%	35%	0.8801	0.8546	7.29%
CenturyLink	12,100,000	1.0337	8%	30%	1.3393	1.9965	12.99%
Fairpoint Communications	768,222	0.5956	6%	0%	1.7500	1.6379	11.20%
Telephone & Data Systems	510,800	0.6724	6%	0%	0.5078	1.0138	8.08%
Consolidated Communications	493,540	0.7987	7%	46%	4.1933	2.5930	15.97%
Cincinnati Bell	389,000	1.4214	10%	43%	1.0000	2.2335	14.17%
Lumos Networks	105,298	0.9211	8%	40%	3.9032	3.0796	18.40%
Shenandoah Telecommunications	21,615	0.7973	7%	39%	0.8682	1.2195	9.11%
Average							13.76%
					Small company (size) premium		3.00%
T-Bill Rate (1990-October 25, 2015)	3.02%						
T-Bond Rate (1990-October 25, 2015)	4.99%					Adjusted CAPM	16.76%

I recommend the Commission accept these adjustments to the Division's CAPM when examining the cost of equity for STRATA.

Q: If the Commission were to use a small company premium to account for increased risk and constrained access to equity and adjust for leverage, would it be reasonable to conclude the 9.50 percent rate of return is a reasonable rate of equity for STRATA?

A: Yes. There are a number of adjustments or premiums that are used to assess value and return. I have used only two. Graph 2 shows the various premia required to calculate returns across financial instruments.

Graph 2

Stocks	Bonds	Cash	Real Estate	Small Stocks	Foreign Stocks	Foreign Bonds
				Small-stock premium	Foreign stock premium	
Equity risk premium				Equity risk premium	Equity risk premium	Foreign bond premium
Bond horizon premium	Bond horizon premium			Bond horizon premium	Bond horizon premium	Bond horizon premium
Real riskless rate	Real riskless rate	Real riskless rate	Real return on real estate	Real riskless rate	Real riskless rate	Real riskless rate
Inflation	Inflation	Inflation	Inflation	Inflation	Inflation	Inflation

Source: Ibbotson and Siegel (1988).

(Ibbotson, Roger G., and Laurence B. Siegel. 1988. "How to Forecast Long-Run Asset Returns." Investment Management Review (September/October).)

It is claimed that "the liquidity premium is perhaps as important as any of the risk premiums." In a paper entitled The Demand for Capital Market Returns: A New Equilibrium Theory (1984), Roger Ibbotson, *et al.* proposed that the three security characteristics that investors most wish to avoid and, therefore, need to be most compensated for in the long run are (1) risk, (2) lack of liquidity, and (3) taxation. (Ibbotson, Roger G., Jeffrey J. Diermeier, and Laurence B. Siegel. 1984. "The Demand for Capital Market Returns: A New Equilibrium Theory." Financial Analysts Journal, vol. 40, no. 1 (January/ February):22–33.) In 2011, Ibbotson extended his research on liquidity and the impact of this risk on small companies. He quantified the liquidity risk associated with small companies. I report these findings in Table 3.

Table 3

	Liquidity			
Size	1 (lowest)	2	3	4 (highest)
1 (smallest)	18.17%	17.46%	13.51%	6.16%
2	16.87	15.15	11.68	6.52
3	15.15	14.36	12.87	9.56
4 (largest)	12.49	11.48	11.55	9.87

Source: Ibbotson, Chen, and Hu (2011).

Ibbotson, Roger G., Zhiwu Chen, and Wendy Y. Hu. 2011. "Liquidity as an Investment Style." Working paper, Yale University (April).

While I have accounted for a conservative size premium in my analysis, I haven't assessed a liquidity premium because without further analysis I cannot separate the liquidity premium from the small company premium. Nevertheless, these data reveal that adjustments are necessary to determine the appropriate return for a small company and that a standard/textbook CAPM approach should be rejected.

I cannot address in detail the results of Mr. Brevitz because I believe he has failed to indicate the method used to calculate the returns on equity proposed by the staff in Kansas. But since he argues strongly against a size adjustment, I suppose that the CAPM without

adjustment was used. My discussion about adjusting the CAPM applies equally to his testimony.

Q: Do you agree that with Mr. Coleman that there is no other practicable way to calculate a rate of equity for rural carriers?

A: No. There are other approaches in the financial literature that attempt to resolve the knotty issues raised by CAPM and its failure as a predictive tool. NTCA proposes a method that uses actual rate-of-return transactions to calculate a Free Cash Flow rate. This method is a variant of the DCF method and is explained by NTCA (Rebuttal Testimony of D Meredith Exhibit 2 — Appendix B PDF page 81). Using this method, the weighted average cost of capital equals Free Cash Flow divided by Value. NECA calculated the rate of return for rural carriers and the median value was at least 11.75 percent. This alternative method informs the Commission that the 9.50 percent rate of return proposed by STRATA is reasonable and should be adopted. I have attached the ILEC Transaction Roster that shows small carrier activity up to 2015. There have not been many closed transactions since NTCA's analysis, so the conclusions in the NTCA submission to the FCC appear to remain valid. (Rebuttal Testimony of D Meredith Exhibit 5).

Q: What is the appropriate interstate rate of return to be used for interstate services?

A: I agree with Mr. Coleman that the most recent Form 492 should be applied in this proceeding and that STRATA's Form 492 includes carriers that are in both the Common Line and Traffic Sensitive Pools. The correct Form 492 was filed with the FCC on September 24, 2015. This is not the 2014 version proposed by Messrs. Brevitz and Coleman. The appropriate interstate rate of return for STRATA is 9.51 percent. (Rebuttal Testimony of D Meredith Exhibit 6).

Q: Using your adjustments to the CAPM and the corrected Form 492 data, what is your overall rate of return you propose the Commission use for STRATA?

A: With the adjustments and update, the overall rate of return for STRATA is 9.51 percent (this value for the overall rate of return coincidently matches the Form 492 result for interstate operations). Table 4 shows this calculation.

Table 4

Depreciation Expense

Q: Have you reviewed the testimony of Mr. Paul Hicken offering testimony on behalf of the Division of Public Utilities?

A: Yes.

Q: What is the core issue you wish to address with regards to depreciation expense raised by Mr. Hicken?

A: The Division disagrees with the use of a standard and industry accepted method of depreciation called group asset depreciation. Mr. Hicken states "it is not in the public interest of the state USF to distribute funding based on accelerated depreciation." (Hicken Lines 175-176) This claim is based on the allegation that group asset method "misrepresents the true rate of depreciation" (Line 165) by having assets that are "fully depreciated much too early" (Line 143), and this ultimately creates "an incentive for overinvestment" (Line 144), and "distorts depreciation expense" (Line 145). I wish to dispel these two notions (the incentive to overinvest and a distortion in overall depreciation expense) as unnecessary distractions that are either factually incorrect or remedied with other methods while still allowing STRATA to retain group method of depreciation.

Further, I observe that the Division's concern about consistency of method across carriers in Utah is best addressed in a rulemaking establishing consistent parameters and reporting procedures for all UUSF recipients. In a rulemaking proceeding, all parties would be able to address concerns and identify unintended consequences of changing a depreciation method during the life of groups of assets placed in service, and the consistency of using

the same method across the intrastate and interstate jurisdictions. All of these implications are very important and based on the record in this proceeding are ignored by the Division or worse unknown to the Division.

Q: Before I ask specific questions about the Division's policy claims, please describe depreciation.

A: Depreciation can be defined many ways, perhaps the most important definition is how accountants define the term:

> Depreciation accounting is a system of accounting which aims to distribute cost or other basic value of tangible capital assets, less salvage (if any), over the estimated useful life of the unit (which may be a group of assets) in a systematic and rational manner. It is a process of allocation, not of valuation. (American Institute of Certified Public Accountants)

A good description of depreciation can be found in a book entitled "Telephone Economy," written by AT&T in 1952. AT&T states:

> [t]he cost of telephone plant is charged to an asset account at the time the plant is installed. Then, each year of the plant's service life, a portion of its cost is charged against that year's revenues. This charge, called *depreciation*, is designed to provide for the recovery of capital invested in plant as that plant is used up.
>
> In theory, depreciation accruals could actually be repaid to the investors, and in some ventures this is done. However, in a business which requires substantial amounts of money each year for construction, there would be no point in repaying the investors an amount equal to the depreciation accrual and then going to the capital market for that much more in new funds. Instead, depreciation accruals are reinvested in the business, and these accruals provide funds for the purchase of new plant. … In a sense, the reinvestment of depreciation represents a recycling of capital. (Telephone Economy, pp 72-73)

STRATA uses group method of depreciation expense to recycle capital into a constantly evolving telecommunications infrastructure that is far from complete in its service area. STRATA invests and reinvests in infrastructure due to plant that has reached its useful life, plant that has become obsolete due to technological change—including where vendors discontinue support of vital equipment that is required to operate 24x7, or for new plant where demand has exceeded the existing plant or where demand occurs due to economic activity in the area. After referencing gas and power cases, Mr. Hicken observes that "it is not unusual to see assets in service for 2-3 times the asset life recommended by the Commission." (Hicken, Lines 52-53) Telephone plant experience is far different from the gas or electric industry. Electronics in the central office and in the field are often obsolete and need to be replaced at a far greater frequency than the Commission established asset life. So there needs to be a balance and an understanding of the transformative changes occurring in telecommunications that are not present in other utility fields—and experience or observation in those fields does not translate well into the telecommunications industry.

Moreover, Mr. Hicken claims the Division is very concerned that the authorized depreciation rate is not aligned perfectly with the service life of an asset. (*e.g.*, Hicken, Line 143) I respond by explaining that this concern is not solved by the Division's recommendation of a single asset method. Consider for example, if the Commission looked at a particular asset account and determined that the depreciation rate should be 20 percent, or a 5-year service life. This means that the cost recovery of the asset in this account would be recovered over five years using the 20 percent per year authorized depreciation rate. Now, if this asset were still useful in years 6, 7, and maybe even retaining usefulness in year 8, the Division's approach and its concern about accelerated depreciation expense recovery remains. In this example, *ex post*, the asset experienced accelerated depreciation. I submit the group method of depreciation, where a carrier needs to periodically adjust the properly weighted average service life of the group and apply straight-line depreciation reflecting the estimated average service life should address the Division's concerns. However, the Division isn't expressing policies that would uniformly require carriers to perform these periodic service life studies—instead it argues to abandon the group method and force a single asset method that does not address its concern

Q: What is the group method depreciation and how does it compare to the single asset method?

A: A very good description of the group method is from ORACLE/PeopleSoft, this is a Fortune 500 company that provides accounting software platforms for major companies across many industries. Contrary to Mr. Hicken's claim that "Group asset depreciation may not be widely known in the general accounting world," (Hicken, Lines 110-111) the group method of accounting is widely understood in many industries. ORACLE states:

> Group assets are treated as a single entity for the purpose of depreciation but as multiple entities for all other purposes. These entities may reside in different locations, or they **may be in different stages of their service lives**. Nevertheless, you consolidate and depreciate their collective cost as if it were that of a single asset.
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> Each group asset is associated with an **average service life** that is usually set by the local regulatory agency. The system uses the asset's remaining service life to calculate a group depreciation rate. The group depreciation rate is usually calculated annually and remains fixed for the entire year. The system then applies this rate to the asset's depreciable basis (the sum of the depreciable bases of its group members) to calculate depreciation expense.
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> Depreciation expense is booked to general ledger by applying the depreciation rate either to an average account balance for the period (using an averaging option) or to actual activity for the period.
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> Average service life studies provide the basis for calculating average remaining life for a group of assets. Average service life studies are performed every three or four years, depending on the length of the local regulatory agency's rate cases.

> Because depreciation rates are calculated by using remaining service life at the **group asset level**, and depreciation also takes place at the group asset level, **it is not possible to over-depreciate group members.** (Emphasis Supplied)

In contrast, a single asset method assigns depreciation expense based on the set deprecation rate established by the Commission for each individual asset.

There is a common misconception that all the assets in a group need to be of the same vintage. (Hicken, Line 105, if read without understanding a group method.) It should be undisputed that group depreciation allows for different vintages to be in a group and the average service life is calculated and properly weighted to account for the differences in service lives. (An asset's vintage is simply the year when the asset was placed in service.) However, in reading the Division's opposition to STRATA's Petition for Summary Judgment, I get the impression that the Division's view of a correctly applied group method is reduced to a vintage method where only assets put into service the same year are allowed to be grouped. The Commission should reject the vintage method of depreciation.

Q: Does the Division express concern about fully depreciated assets remaining in the plant accounts of STRATA?

A: Yes. The Division's preoccupation with carriers having assets fully depreciated and still in service is rather unusual. With its oversight authority, the Commission, in consort with the Division, can readily examine the depreciation expense over time and the associated reinvestment in needed infrastructure discovering and addressing any perceived irregularities.

Furthermore, the Division incorrectly argues that an asset with a remaining useful life should be removed from the group plant account after it has been fully depreciated. (Hicken, Line 123-125) There should be no confusing retirements or disposals of assets with full depreciation of assets. It is standard practice to retain an asset in a plant account after it is fully depreciated insofar as it is still in service. Only upon disposing or retiring an asset is it removed from the plant account. The Commission should reject the inference

that fully-depreciated assets should be removed from the plant accounts before they are properly disposed.

Q: Does the group method accelerate the recovery of depreciation expense?

A: No because the group method identifies the group as the asset with depreciation occurring at the group level. The recovery of depreciation expense is based on the properly weighted average service life of the group. Recall that in the telephone industry, this capital is generally reinvested in infrastructure for the reasons I stated earlier. A properly weighted average service life will account for the depreciation of all the units within the group, and depreciation will follow the straight-line method employed by STRATA for its groups.

Furthermore, if there is a concern about receiving more depreciation expense than the initial asset value, this concern should be dispelled. Recall, in describing the group method, ORACLE states:

> Because depreciation rates are calculated by using remaining service life at the **group asset level**, and depreciation also takes place at the group asset level, **it is not possible to over-depreciate group members.** (Emphasis Supplied)

There should not be any concern about over-depreciating group members.

Q: Is group asset depreciation required by the FCC?

A: Yes. Group asset depreciation is the method that carriers use to calculate depreciation expense, except when the FCC prescribes a different method. (See 47 C.F.R. §32.200(g))

The FCC describes its group method of depreciation in 47 CFR 32.9000, which states:

> *Group plan,* as applied to depreciation accounting, means the plan under which depreciation charges are accrued upon the basis of the original cost of all property included in each depreciable plant account, **using the average service life thereof properly weighted**, and upon the retirement of any depreciable property its cost is

charged to the depreciation reserve whether or not the particular item has attained the average service life. (Emphasis Supplied)

The FCC uses a group plan and allows the mixing of vintages but requires the use of a "properly weighted" "average service life."

Q: Does STRATA manipulate Commission approved depreciation rates?

A: No. STRATA uses the approved Commission depreciation rates for each asset classification. The only difference between group asset and single asset methods is the calculation of authorized depreciation expense for a given year. Both methods use straight-line depreciation, but under the group asset method, the group account investment balance is multiplied by the approved depreciation rate and this amount becomes the maximum depreciation expense for the group of assets. If there is a sufficient remaining net investment balance, the depreciation expense will equal the maximum depreciation expense. Otherwise, only the remaining portion of un-depreciated plant will be depreciated. If the goal is to minimize total Utah USF over the life of a particular asset, the group asset method will reduce return on rate base since the rate base is being reduced at an accelerated rate.

There is no manipulation of Commission approved depreciation rates. I note that when the Commission established its approved rates in the 1990s, group asset accounting was an approved method of depreciation and was recognized as a method used by carriers. Neither the Division, nor the Commission has historically had any concern or issue with group asset depreciation. In fact, they have tacitly approved it for more than 20 years. If there is now a concern, the remedy is to develop rules that identify a uniform method to calculate and apply a properly weighted average service life.

Q: If the Commission wanted to change its policy on depreciation, how would you recommend it implement this policy change?

A: I recommend the Commission adopt the policy on a prospective basis for new assets that are purchased and placed into service. The Commission should allow purchases of past

plant assets to remain in their group for purposes of the group asset method until the group account has no more depreciation expense to realize. Since the Commission has allowed the use of the group asset depreciation method, the retirement of this method should be orderly and should allow the current depreciation method to be used for existing plant infrastructure.

The primary reason for this recommendation is to prevent STRATA from experiencing a sudden and dramatic decline in depreciation expense—funds that are used to reinvest in plant infrastructure. In a well managed company, my experience is that aside from growth or technological change that requires additional investment, the depreciation expense and the additions to replace existing infrastructure generally trend together. The disruption caused by a sudden change to single asset from group asset accounting for existing assets will result in a cash-flow squeeze and should be minimized. Mandating a change on a prospective basis will help minimize this cash flow disruption and allow STRATA to continue to invest in infrastructure as identified in its planned capital budget.

Moreover, there are serious federal universal service support and interstate rate implications that need to be examined before any change is made. The Commission should investigate these and other issues in a rulemaking with all affected parties able to participate.

Q: Does STRATA overinvest even if it had the opportunity as alleged by Mr. Hicken (Hicken, Line 144)

A: No. While the Division expresses this concern, it provides no information suggesting that STRATA overinvests. Given the extensive review of STRATA by the Division, I would expect that if any instance of overinvestment was identified, the Division would have provided this information.

Q: Please address the comment by Mr. Hicken on a possible distortion of depreciation expense. (Hicken, Lines 145-147)

A: Mr. Hicken argues that STRATA has the incentive to manipulate its accounts to distort depreciation expense so that its expense level in the test year is higher than what is expected

in over future years. There is no specific information on this presented by the Division that STRATA has distorted depreciation expense. The Division discusses a pole retirement issue involving salvage that is distinguishable from distortions in using a group method. The pole retirement issue is addressed specifically by Mr. Karl Searle.

The Division has the ability to view STRATA's depreciation expense over time and there isn't information supporting a distortion. Furthermore, STRATA has a five-year capital expense plan filed with the FCC. Based on the method I described above, the level of depreciation expense in the test year is representative for the expected depreciation of planned investment for the first three years. While the data show that the test year expense is higher than the resulting depreciation expense for planned investment, there will be uncertainties leading to the need to replace infrastructure in the future that STRATA cannot quantify, especially in years four and five. The depreciation expense in the test year is a reasonable estimate of what STRATA is expected to experience in the next five years.

Q: Is STRATA's test year depreciation expense representative of what it will experience in the next five years?

A: Yes. There is not an expected distortion. And if the Division observes a distortion, it has the tools to remedy the matter.

Q: Please summarize your testimony on depreciation methods.

A: STRATA uses a standard and industry approved depreciation method. This method uses an average service life of the group and properly accounts for depreciation at the group level.

The Division proposes a single asset method of depreciation without recognizing the accounting and reporting hazards of using two different methods—one for interstate purposes and the other for state USF purposes has been ignored by the Division. The Division's position is a change in policy and if it wanted standardized approach across all carriers, it should petition for a rulemaking to examine the issue. For these reasons, I

recommend the Commission allow STRATA to continue to use group asset depreciation in calculating its need for Utah USF support.

The two concerns of the group method raised by the Division: the incentive to overinvest and a distortion in overall depreciation expense are not evident in STRATA's operations. Furthermore, the solution of single asset method offered by the Division does not resolve these concerns and frankly adds a host of other concerns that would need to be addressed by the Commission prior to a change in its longstanding policy.

Q. Does this conclude your testimony?

A. Yes.