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THE BROADBAND ASSOCIATION

June 20, 2013

Ms. Marlene Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: Connect America Fund, Phase II Cost Model Virtual Workshop
WC Docket No. 10-90

Dear Ms. Dortch:

The Coalition responds to the new question posed in this Virtual Workshop topic on May 17, 2013, select portions of the May 16, 2013 Staff Report[1] and certain statements previously made by the American Cable Association ("ACA") in its May 2, 2013 *Ex Parte* communication on this topic.

In the comments below, we conclude that the Staff Report, when restricted to price cap carriers[2] and weighted by total capitalization for its analysis would yield a zone of reasonableness for cost of capital of 7.43% to 9.52%.[3] The Staff Report recommended that the Commission consider establishing the authorized rate of return in the upper half of the range, noting, among other things, the current historically low interest rates and the Commission's infrequency of represcription. The upper half of the range for price cap carriers would be from 8.48% to 9.52%.[4]

[1] A Wireline Competition Bureau staff report analyzing the cost of capital and a related Public Notice were released on May 16, 2013. *See Prescribing the Authorized Rate of Return: Analysis of Methods for Establishing Just and Reasonable Rates for Local Exchange Carriers,* WC Docket No. 10-90, Staff Report, DA 13-1111 (Wireline Comp. Bur. rel. May 16, 2013); *Wireline Competition Bureau Seeks Comment on Rate of Return Represcription Staff Report*, WC Docket No. 10-90 et al., Public Notice, DA 13-1110 (Wireline Comp. Bur. rel. May 16, 2013).
[2] The Staff Report evaluated sixteen publicly traded firms. Ten of those companies are price cap carriers that may receive support based on the Connect America Cost Model. Those ten companies are: Alaska Communications Systems, AT&T, Century Link, Cincinnati Bell, Consolidated Communications, FairPoint Communications, Frontier Communications, Hawaiian Telecom, Windstream Corporation, and Verizon.
[3] Staff Report, Appendix K. The Staff Report results themselves are based on simple unweighted arithmetic averages of the individual company upper and lower bounds of the Staff Report's CAPM and DCF analyses and produce and unweighted average zone of reasonableness of 7.86% to 9.10% with an upper half range of 8.48% to 9.10%.
[4] The unweighted company-by-company upper half of the range of reasonableness results from Appendix K is 8.48% to 9.10%.

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Based on the Staff Report and elements of our own analysis, the Coalition recommends the use of a point estimate of 9.00% with a weighted average approach debt-to-equity ratio of 33% debt to 67% equity and a cost of debt of 5.6%.

As a threshold matter, the Staff Report provides a significant and credible analysis of the cost of capital faced by telecommunications carriers though there are a number of technical points, explained below, with which we take exception. The Staff Report has a broader purpose of addressing the cost of capital of rate of return carriers. Its results are based on analysis of sixteen publicly traded telecommunications carriers, ten of which are price cap carriers that are expected to be eligible to receive support on the basis of the Connect America Cost Model. Our analysis herein focuses on only the ten price cap carriers included in the Staff Report.

Upper and Lower Bounds

The table below summarizes data from Appendix K of the Staff Report which displays the results of the upper and lower bound analysis developed by the Staff for two cost models, the Capital Asset Pricing Model (CAPM) and the single-stage Discounted Cash Flow (DCF) model.

Company	CAPM WACC Lower Bound	CAPM WACC Upper Bound	DCF WACC Lower Bound	DCF WACC Upper Bound
Alaska	7.51%	7.86%	7.38%	8.19%
AT&T	7.37%	9.15%	9.46%	9.46%
CenturyLink	7.31%	8.64%	7.54%	7.54%
Cincinnati Bell	9.41%	10.55%	NA	NA
Consolidated	7.88%	8.93%	8.31%	8.31%
FairPoint	7.65%	8.27%	NA	NA
Frontier	8.58%	9.54%	10.31%	10.31%
Hawaiian Telcom	7.54%	8.43%	NA	NA
Verizon	7.37%	9.14%	10.39%	10.39%
Windstream	7.98%	9.03%	7.33%	9.47%

Arithmetic Average vs. Weighted Averages

The Staff Report develops its summary conclusions on the basis of simple arithmetic averages of the results for the companies included in the analysis. While there are various theoretical arguments for using arithmetic averages for forecasting prospective expected or required rates of return[5] we must consider as asked by Staff, if such results would be a reasonable reflection of the cost of capital and capital structure of an efficient provider? As should be expected, the ten companies in the analysis vary significantly in size based on capitalization.[6]

Company	10K Market Cap (12/31/12)	10K Long Term Debt (12/31/12)	10K Total Capitalization (12/31/12)	Weight (Total)
Alaska	$ 88,892,579	$ 564,180,000	$ 653,072,579	0.13%
AT&T	$185,122,155,874	$ 71,035,000,000	$256,157,155,874	50.12%
CenturyLink	$ 24,482,187,154	$ 20,587,000,000	$ 45,069,187,154	8.82%
Cincinnati Bell	$ 1,110,679,188	$ 2,696,900,000	$ 3,807,579,188	0.75%
Consolidated	$ 634,458,948	$ 1,219,961,000	$ 1,854,419,948	0.36%
FairPoint	$ 210,479,096	$ 957,000,000	$ 1,167,479,096	0.23%
Frontier	$ 4,272,617,000	$ 8,942,568,000	$ 13,215,185,000	2.59%
Hawaiian Telcom	$ 200,691,992	$ 299,250,000	$ 499,941,992	0.10%
Verizon	$123,677,577,294	$ 51,189,000,000	$174,866,577,294	34.21%
Windstream	$ 4,889,213,995	$ 8,903,700,000	$ 13,792,913,995	2.70%
Total	$344,688,953,119	$166,394,559,000	$511,083,512,119	100.00%

The Staff Report Appendix K upper and lower bound CAPM and DCF results vary based on how they are averaged, though the differences are not large. The Staff Report's use of arithmetic averages gives disproportionate emphasis to firms with very high levels of lower quality debt. A capitalization-weighted approach can be used to increase the emphasis on investment grade carriers. The midpoint of the range of results using arithmetic or weighted averages remains constant at 8.48%.

Company	CAPM WACC Lower Bound	CAPM WACC Upper Bound	DCF WACC Lower Bound	DCF WACC Upper Bound
Arithmetic Average	7.86%	8.95%	8.67%	9.10%
Weighted Average	7.43%	9.11%	9.47%	9.52%

However, whether components are averaged arithmetically or on a weighted basis have significant effects on the ratio of debt to equity, the cost of debt, the CAPM cost of equity and

[5] See e.g., Ibbotson® SBBI® 2013 Valuation Yearbook, Market Results for Stocks, Bonds, Bills and Inflation, 1926-2012, p. 56.
[6] Market Capitalization is based on the number of shares outstanding reported on each company's 2012 10K as of various dates in early 2013 multiplied by the closing market price on December 31, 2012. Long term debt includes both the long term portion and current-maturities of long term debt reported in the 2012 10K reports.

the weighted average cost of capital. The individual company values displayed below are from the Staff Report.[7]

Company	Debt Share (Report)	Debt Cost (Report)	Cost of Equity (Weekly, Adj Betas)	CAPM WACC (Report)	DCF WACC (Report)
Alaska	85.74%	7.38%	6.84%	7.30%	NA
AT&T	26.07%	5.40%	6.69%	6.36%	9.53%
CenturyLink	44.22%	6.47%	6.63%	6.56%	8.48%
Cincinnati Bell	70.69%	8.42%	9.59%	8.77%	NA
Consolidated	65.57%	6.97%	7.91%	7.29%	8.31%
FairPoint	81.95%	6.97%	8.77%	7.29%	NA
Frontier	66.30%	8.27%	7.56%	8.03%	10.59%
Hawaiian Telcom	59.30%	7.52%	6.30%	7.02%	NA
Verizon	27.80%	5.25%	6.78%	6.36%	9.96%
Windstream	62.49%	7.33%	7.46%	7.38%	9.61%
Arithmetic Average	59.01%	7.00%	7.45%	7.24%	9.41%
Weighted Average	32.56%	5.82%	6.75%	6.47%	9.50%

Multiple Modeling Methods

As is seen from the Staff Report results for CAPM and DCF models, the results for cost of equity vary by model. Use of multiple models provides an opportunity to observe a "zone of reasonableness" within which a just and reasonable cost of capital may be selected. The Staff Report properly rejects the single-model approach suggested by the American Cable Association ("ACA").[8]

The Coalition offers a third approach to validating a reasonable range for the cost of equity for the "Telephone Communications, Except Radiotelephone" group of firms.[9] This simple model, which is a variant on CAPM, provides a high level estimate for members of the group, which includes all sixteen companies used in the Staff Report. The "Build-Up Model" simply sums the risk free rate, the market equity risk premium and an industry-specific risk premium to estimate

[7] Debt Cost is reported in Appendix E. All other values are reported in Appendix I1. The Staff Report estimated cost of equity was developed using an Equity Risk Premium of 5.88% and a risk free rate of 1.92%.
[8] See Ex Parte notice filed on May 2, 2013 in WC Docket No. 10-90.
[9] As reported by Ibbotson® SBBI® 2013 Valuation Yearbook, Market Results for Stocks, Bonds, Bills and Inflation, 1926-2012. SIC Code 4813.

the cost of equity for the group. The selection of the risk free rate and the market equity risk premium[10] will be discussed in subsequent sections. The risk premium for each industry is developed by Ibbotson using a standardized process.[11]

The results of the Build-Up Model are displayed below and present a range of outcomes that recognize the current historically low interest rates and the Commission's infrequency of represcription. The results are highly consistent with the range of outcomes by company provided in the Staff Report.

Description	Source[12]	12/31/12 Risk Free Rate	Forecasted Risk Free Rate
Risk Free Rate	Note	2.41%	4.26%
Equity Risk Premium	Note	6.70%	6.70%
Industry Risk Premium	Note	-2.20%	-2.20%
Cost of Equity	Sum	6.91%	8.76%

Selection of Risk Free Rate

CAPM and the Build-up model each begin their assessment of the cost of equity with a risk-free rate. ACA suggests using a 2.00% 10-year treasury rate as the risk free rate and the Staff Report relies on a 1.92% rate from March 26, 2013.[12] We believe these choices are problematic for three reasons. First, the 10-year rate does not match the economic lives of many of the modeled assets. For example, economic lives for cable investments of all types in the Connect America Cost Model are 20 years or more. Second, use of a rate in the 2% range fails to acknowledge that interest rates are at historic lows and are forecasted to increase substantially over the next several years – a period over which the national broadband infrastructure will be built out. The Survey of Professional Forecasters for the first quarter of 2013 published by the Research Department of the Federal Reserve Bank of Philadelphia indicates that over the 2013 to 2022 10-year period, 10-year U.S. Treasury bond returns may average 3.70%.[13] Adding the average spread of 56 basis points between 20-year and 10-year bonds over the past 20 years[14] suggests that the correct risk free rate input to the current modeling is approximately 4.26%. This risk

[10] Ibbotson develops its Long-Horizon Equity Risk Premia on the basis of the S&P 500 total return minus long-term (20-year) government bond income returns. The value reported below is the simple arithmetic average of each annual risk premium for the period of 1926 through 2012.
[11] Ibbotson® SBBI® 2013 Valuation Yearbook, pp. 28-29. The complete list of companies used to calculate each industry risk premia estimate can be found at http://corporate.morningstar.com/IRP.
[12] ACA 5/2/13 *Ex Parte* Appendix and Staff Report, paragraph 64.
[13] Survey of Professional Forecasters, February 15, 2013, Table 7. http://www.phil.frb.org/research-and-data/real-time-center/survey-of-professional-forecasters/2013/survq113.cfm
[14] http://www.treasury.gov/resource-center/data-chart-center/interest-rates/Pages/TextView.aspx?data=yield

free rate is less than the 87-year average of 5.1% reported by Ibbotson.[15] Third, ACA improperly mixes the use of 10-year bond returns with the Ibbotson Equity Risk Premia of 6.70% which was developed by Morningstar using 20-year Long-Term government bond income returns as the risk free rate benchmark.

Selection of Equity Risk Premium

The Staff Report acknowledges the regularly published Morningstar® Ibbotson® equity risk premium as a "commonly used source" for the long run average historical market risk premium and stated a value of 6.7% as reported in the Morningstar® Ibbotson® 2011 Classic Yearbook.[16] The Staff Report complained of a lack of access to the underlying data to provide a confidence interval around the reported estimated means. Morningstar® has recently published results through the end of 2012 and the Long-Horizon Equity Risk Premia, 1926 through 2012 has averaged 6.7%.[17]

We believe that the Ibbotson® data is appropriate to use and it is readily available in published works for minimal cost. Our only caution is that the risk premium used in any cost of equity analysis should be developed consistent with the risk free rate used in the analysis. That is, if the risk premium used is developed by comparing market returns to 20-year government bond income returns, then the risk free rate used in the CAPM or Build-Up Model should be that of the 20-year government bond income return. To do otherwise would run a substantial risk of over- or under-estimating the cost of equity.

Selection of Debt and Equity Weights

The Coalition agrees with the Staff Report recommendation to use market value capital structure where the amount of equity is based on the value of each company's stock and debt is included at book value.[18] In addition to the Staff Report reasoning on this matter we note that other key inputs to the determination of the cost of equity, such as the risk premium and beta are developed by data suppliers based on market prices and weights. On the other hand with respect to debt, we note that market values of all debt issues for a carrier may be hard to come by in that some company debt issues are private placements and are therefore not registered or publicly traded. We also note that the averaging method – whether simple averages or weighted averages – of proxy firms' capital structures vary significantly. In this case the simple arithmetic average of

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[15] Morningstar® Ibbotson® 2013 SBBI Valuation Yearbook, p. 23 and Table B-7. Based on data presented in Table B-7, we estimate a 95% confidence interval of 5.1% +/- 0.56%.
[16] Staff Report at paragraph 71.
[17] Morningstar® Ibbotson® 2013 SBBI Valuation Yearbook, Table A-1. Descriptive statistics of the Long-Horizon Equity Risk Premia, including confidence intervals, can be derived from the time series data presented in the table by using Excel® data analysis tools. Based on data in Table A-1 we estimate a 95% confidence interval of 6.7% +/- 4.3%.
[18] Staff Report at paragraphs 44, 47.

debt and equity weights result in a mix of 59% debt and 41% equity as opposed to a market-weighted average mix of approximately 33% debt and 67% equity.

Selection of Cost of Debt

The Coalition generally agrees with the conclusions reached in the Staff Report that the cost of debt should be based upon values and interest costs reported by the companies in their annual reports to the SEC. The Staff Report suggested using a method that corrects an apparent error in the Commission's rules for calculating the embedded cost of debt but also left the door open to using a current cost of debt calculation and possibly focusing consideration of the cost of debt on firms that "have either investment-grade bond ratings, or times-interest-earned ratios roughly equal to the ratios of firms that have such a rating."[19] The Staff report preliminarily recommended the use of a 6.19% cost of debt based on the arithmetic average of the cost of debt of all 16 companies it evaluated.

As noted in the discussion on averaging, the choice to weight the cost results on the basis of size has a significant effect on the results. When limited to the cost of debt for the 10 price cap firms in the Staff Report, the arithmetic average debt cost reported by Staff is 7.00%. When weighted by the amounts of outstanding debt, the value drops to 5.82%. Using weighted values would tend to emphasize the issuers of higher quality debt.

The Staff Report made one significant error in its development of the cost of debt. Appendix E reports that the embedded rate was developed from 2012 interest expense divided by the average of outstanding non-current long-term debt at the end of 2011 and 2012. This approach understates the total amount of debt and overstates the cost of debt by excluding the current portion of long-term debt on which the carriers continue to pay interest. In the alternative and in order to capture a more forward-looking cost of debt, the Coalition suggests that individual company financial reports (i.e., SEC form 10K) could be used to develop the carrying cost of debt as of the end of 2012 by dividing reported long-term debt interest payment obligations for 2013 by total outstanding long-term debt as of December 31, 2012. The results of our analysis follow.

[19] Staff Report, paragraph 47.

Company	Source	2013 Interest	12/31/12 LTD	Effective Rate
Alaska	10K, p. 46	$ 39,538,000	$ 564,180,000	7.01%
AT&T	10K, p. 26	$3,446,000,000	$ 71,035,000,000	4.85%
CenturyLink	10K, p. 107	$1,362,000,000	$ 20,587,000,000	6.62%
Cincinnati Bell	10K, p. 52	$ 213,900,000	$ 2,696,900,000	7.93%
Consolidated	10K, p. 49	$ 76,656,000	$ 1,219,961,000	6.28%
Fairpoint	10K, p. 50	$ 62,434,000	$ 957,000,000	6.52%
Frontier	10K, p. 35	$ 678,872,000	$ 8,942,568,000	7.59%
Hawaiian Telecom	10K, p. 41	$ 20,869,000	$ 299,250,000	6.97%
Verizon	10K, p. 65 (pdf)	$2,780,000,000	$ 51,189,000,000	5.43%
Windstream	10K, p. F-24	$ 590,900,000	$ 8,903,700,000	6.64%

Sum of 2013 Interest	Sum of 12/31/12 Debt	Wtd Cost of Debt
$9,271,169,000	$166,394,559,000	5.57%
	Arithmetic Avg ==>	6.58%

Revised CAPM Results

We have considered modifications to the Staff Report CAPM modeling that includes debt to equity ratios premised on the inclusion of the current portion of long term debt, revision of the computation of the cost of debt to be based on the forward-looking view of 2013 debt costs reported by the price cap carriers and modifications to the computed cost of equity based on replacement of the single Risk Free Rate input with a current and a forecasted view and the use of the Morningstar® Ibbbotson ® equity risk premia for results through the end of 2012. The results of these modifications are presented below.[20]

[20] We use the Morningstar® Ibbotson® inputs for Equity Risk Premium of 6.7% and 2.41% for the December 31, 2012 Risk Free Rate. The forecasted risk free rate of 4.26% discussed above. These results do not reflect the use of statistical inference as used in the Staff Report to develop a zone of reasonableness.

Company	Debt Share	Cost of Debt	Adjusted Weekly Betas	Cost of Equity (Low)	Cost of Equity (Forecast)	CAPM WACC (Low)	CAPM WACC (Forecast)
Alaska	86.39%	7.01%	0.84	8.04%	9.89%	7.15%	7.40%
AT&T	27.73%	4.85%	0.81	7.84%	9.69%	7.01%	8.35%
CenturyLink	45.68%	6.62%	0.80	7.77%	9.62%	7.24%	8.25%
Cincinnati Bell	70.83%	7.93%	1.30	11.12%	12.97%	8.86%	9.40%
Consolidated	65.79%	6.28%	1.02	9.24%	11.09%	7.30%	7.93%
FairPoint	81.97%	6.52%	1.16	10.18%	12.03%	7.18%	7.52%
Frontier	67.67%	7.59%	0.96	8.84%	10.69%	8.00%	8.59%
Hawaiian Telcom	59.86%	6.97%	0.74	7.37%	9.22%	7.13%	7.87%
Verizon	29.27%	5.43%	0.83	7.97%	9.82%	7.23%	8.54%
Windstream	64.55%	6.64%	0.94	8.71%	10.56%	7.37%	8.03%
Arithmetic Average	59.97%	6.58%		8.71%	10.56%	7.45%	8.19%
Weighted Average	32.56%	5.57%		7.92%	9.77%	7.16%	8.40%

Qualitative Considerations

The Coalition notes that currently unserved areas present substantial incremental risk to service providers because of high costs and low density. Without explicit support, many unserved areas might never be served. In addition, because CAF II funding is presently intended to last only five years the incremental risk to the carriers is exacerbated. In our view it would not be unreasonable to recognize this incremental risk in adoption of a somewhat higher cost of capital.

Selection of Comparable Firms

Our analysis has focused on all 10 Price Cap carriers in the Staff Report. Certainly differing subsets of carriers could be considered. For example, ACA evaluated the cost of capital, albeit with many downwardly biased errors, for only five firms. The Coalition recommends the inclusion of all 10 publicly traded price cap carriers in the development of the cost of capital for use in the Connect America Cost Model.

Summary Results

If the Staff Report data is limited to the 10 price cap carriers in the Staff's analysis and there are no modifications to the Staff Report values, the zone of reasonableness based on statistical inference for the cost of capital is in the range of 7.43% to 9.52% on a total capitalization weighted basis. Following the Staff's suggestion to limit the adopted value for cost of capital to the upper half of the range of results, the adopted costs of capital for use in the Connect America Cost Model should fall in the range of 8.48% to 9.52%.

It should be noted that the Staff Report lower bound and midpoint of the range of reasonableness for the cost of capital will be shifted upward by the dual effects of the correct inclusion of a 20-year risk free rate [21] and the use of the most recent Equity Risk Premium published by Morningstar® Ibbotson®.[22]

Conclusions

For purposes of finalizing input values in the Connect America Cost Model, the Bureau should not utilize an assumed cost of capital of eight percent, calculated with a ratio of debt to equity of 45:55, and a cost of debt of 6.19%, when adopting final annual charge factors.

Instead, the Coalition believes that the “zone of reasonableness” for the cost of capital for use in the Connect America Cost Model is well above 8.48% and up to 9.52%. The Coalition recommends the use of a point estimate of 9.00% with a weighted average approach debt-to-equity ratio of 33% debt to 67% equity and a cost of debt of 5.6%.[23]

Sincerely,

Robert Mayer
Vice President
Industry and State Affairs

cc: Katie King
Theodore Burmeister

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[21] The Staff Report risk free rate was that of a 10-year U.S. Treasury bond at 1.92%. The correct value to consider is the 20-year U.S. Treasury Bond that was at 2.41% as of 12/31/12 or, in consideration of the abnormally low interest rate environment, a forward-looking forecast of 4.26% based on the Survey of Professional Forecasters published by the Federal Reserve Bank of Philadelphia.
[22] The Staff Report used an Equity Risk Premium of 5.88%. The most recent Equity Risk Premium estimate from Morningstar® Ibbotson® is 6.70%.
[23] In the alternative, if the arithmetic average approach is selected the overall cost of capital should still be set at 9.00% with a debt-to-equity ratio of 60% debt to 40% equity with a cost of debt of 6.6%.