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March 7, 2013

Via ECFS

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

Re: American Cable Association *Ex Parte* Filing in the Virtual Workshop in Response to the Public Notice on the Connect America Cost Model, WC Docket Nos. 10-90 and 05-337

Dear Ms. Dortch:

In response to the Public Notice¹ issued by the Wireline Competition Bureau seeking additional comment in the Connect America Cost Model virtual workshop on Annual Charge Factors and other postings in the virtual workshop, today the American Cable Association (“ACA”) filed in the virtual workshop the attached three separate comments. Should you have any questions about these recommendations, please contact me.

¹ *Wireline Competition Bureau Seeks Additional Comment in Connect America Fund Cost Model Virtual Workshop*, WC Docket Nos. 10-90, 05-337, Public Notice, DA 13-156 (rel. Feb. 5, 2013). (“Public Notice”)

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This letter is being filed electronically pursuant to section 1.1206 of the Commission's rules.

Sincerely,



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Attachments: (1) American Cable Association, Connect America Cost Model (CACM) Virtual Workshop Post, March 7, 2013, Virtual Workshop Topic: Determining the Annual Cost of Capital Investments
(2) American Cable Association, Connect America Cost Model (CACM) Virtual Workshop Post, March 7, 2013, Virtual Workshop Topic: Plant Mix
(3) American Cable Association, Connect America Cost Model (CACM) Virtual Workshop Post, March 7, 2013, Virtual Workshop Topic: Connect America Cost Model (Version 2)

cc: Steve Rosenberg
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**American Cable Association
Connect America Cost Model (CACM) Virtual Workshop Post
March 7, 2013**

Workshop Topic: Determining the Annualized Cost of Capital Investments

Q1. Are the ACFs used in CACM version two reasonable?

The annual charge factors (ACFs) in the model are of particular importance as they are used to estimate the annualized capital costs required for price cap local exchange carriers (LECs) to bring broadband to unserved locations. The ACFs are a function of the rate of return required by the firm (i.e., the cost of capital), depreciation rates, and income tax rates. ACA has identified the following four issues with the ACFs that should be resolved before they can be determined to be reasonable.

1. Cost of Capital Estimation:

On January 15, 2013, CostQuest's proprietary capital cost model was published in the 'Posted Data Sets' section of the CACM website. ACA has evaluated the methodology used to estimate the discount rate and has determined that the estimation does not take into account the tax shield associated with debt financing. This tax shield is generally recognized as a necessary component of a cost of capital estimation in countries such as the United States which have corporate taxes and allow interest on debt financing to be deducted from tax liabilities (*see e.g., MIT Sloan cost of capital calculation reference*).¹

Specifically, the calculation methodology used in the model is the following:

$$\text{Cost of Capital} = (\text{ROE})(1 - \text{Debt Ratio}) + (\text{Cost of Debt})(\text{Debt Ratio})$$

The cost of capital with the incorporated tax shield would be calculated as follows:

$$\text{Cost of Capital} = (\text{ROE})(1 - \text{Debt Ratio}) + (\text{Cost of Debt})(\text{Debt Ratio})(1 - \text{Tax Rate})$$

When including the tax shield in the calculation, while still using the default capital cost input assumptions included in CostQuest's capital cost model, the discount rate estimate is reduced from its current 9.0% to 8.34%:

Existing Calculation:

$$(9.7\% \text{ ROE})(1 - 25\% \text{ Debt Ratio}) + (7\% \text{ Debt Rate})(25\% \text{ Debt Ratio}) = 9.0\%$$

Calculation Incorporating Tax Shield:

¹ MIT Sloan Open Courseware – Finance Theory: <http://ocw.mit.edu/courses/sloan-school-of-management/15-402-finance-theory-ii-spring-2003/lecture-notes/lec14awaccapv.pdf>.

$$(9.7\% \text{ ROE})(1-25\% \text{ Debt Ratio}) + (7\% \text{ Debt Rate})(25\% \text{ Debt Ratio})(1 - 34\% \text{ Federal Tax Rate} - 5.3\% \text{ State Tax Rate}) = 8.34\%$$

Additionally, ACA has determined that the three primary inputs used in the cost of capital calculation – the cost of equity, the cost of debt, and the debt ratio – do not appear to be consistent with the actual publically available market data for ABC Coalition (price cap LEC) firms. ACA estimates that the actual cost of capital for the five price-cap LECs in the ABC Coalition ranges from 5.60%-6.51%.²

These estimates have been updated since ACA's previous comments on price-cap carrier rates of return that was submitted in response to the *June 2012 Model Design Public Notice*.³ They include the tax shield and are based on current debt ratios, current ten year bond rates, and estimated costs of equity using the capital asset pricing model.

(The following additional assumptions were used in the cost of capital calculations: 2% risk free rate based on 10-year Treasury bond rates⁴, 10.00% market return based on historical equity market returns (8.00% market risk premium)⁵, 39.3% combined Federal and State marginal tax rate⁶, and 0.51 telecom utilities unlevered beta which was levered for each firm based on current debt/equity ratios⁷.)

Since the Commission has historically used one discount rate for support determinations to maintain administrative simplicity, ACA believes it would be appropriate to use a single discount rate that is a reasonable representation of the ABC Coalition member capital costs. The following three approaches to averaging the price-cap LEC discount rates would achieve this objective: a simple average (6.01%), an average weighted by the total number of locations unserved by competitive providers (5.86%), and an average weighted by firm market capitalization (5.67%). ACA believes that the Commission should choose among these methodologies to set the ACFs for the final version of the cost model.

While using different cost of money assumptions for different carriers would be the most accurate modeling approach, ACA acknowledges that it would add significant administrative complexity and would not be consistent with the approach of using global assumptions for other components of the cost model.

² ACA acknowledges that this discount rate range may not be accurate for rate of return carriers.

³ See American Cable Association Comments on Public Notice DA 12-911: Model Design and Data Inputs for Phase II of the Connect America Fund, WC Docket Nos. 10-90, 05-337, at 28 (July 9, 2012).

⁴ US Department of the Treasury: <http://www.treasury.gov/resource-center/data-chart-center/interest-rates/Pages/TextView.aspx?data=yieldYear&year=2012>.

⁵ NYU Stern – *Annual Returns on Stock, T.Bonds and T.Bills: 1928 – Current*: http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/histretSP.html.

⁶ Default CACM tax rate inputs (34% Federal, 5.3% State).

⁷ NYU Stern – *Betas by Sector (Updated January 2013)*: http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/Betas.html.

2. Future Net Salvage Value

The capital costs input table includes values for the economic lives, tax lives, and future net salvage values for each asset category. The future net salvage values represent the remaining asset values at the end of their economic lives for each asset class. If an asset is expected to have zero value at the end of its economic life, its future net salvage value should be zero.

ACA noted that for eight of the nineteen asset classes included in the model, the future net salvage values are negative, implying that there is an additional cost that must be incurred by the price-cap LECs at the end of the asset lives. For example, the 'Poles' asset category has a future net salvage value of -75% and the 'Aerial Copper' asset category has a future net salvage value of -35%.

It is not clear why the model should include any additional costs at the end of the asset lives, especially given that the modeled operating expenses provide funding for certain repairs and replacements. In addition, there does not appear to be justification for funds to be accrued to subsidize the potential decommissioning of the network at some point in the future.

These negative values increase the depreciation expenses, resulting in larger ACFs and therefore greater annual costs for each of the eight asset categories that have negative future net salvage values. For example, in the case of the 'Pole' asset category, if a pole costs \$100 and has an economic life of 25 years, the -75% future net salvage value means that the model provides \$175 in capital recovery to the price cap LECs for the \$100 capital expense. As such, \$175 would be depreciated over 25 years, rather than the \$100 value of the asset.

The input assumptions should be updated to remove any negative future net salvage values, as these do not accurately reflect the true forward-looking costs, and result in an overstatement of depreciation expenses.

3. Accelerated Depreciation

The model's use of straight line depreciation within each of the equal life groups effectively results in accelerated depreciation when all of the groups are combined in the ACF calculation process. This was confirmed by the ABC Coalition in its July 9, 2012 comments which stated, "When [the equal life groups are] combined together, the effective depreciation rate...may be more akin to an accelerated life."

Given that the model uses levelized costs to estimate steady state capital expenditures, acknowledging that a portion of the capital expenditure outflows will not be incurred in the first year, the use of accelerated depreciation as part of the ACF calculation does not appear to be appropriate as it likely overstates costs.

4. Brownfield Adjustment Factors

As part of the CACM model, a new 'Brownfield Adjustment' input sheet was introduced to support the ability to calculate adjusted brownfield costs. The adjusted brownfield calculation methodology modifies the ACFs so that they continue to include replacement costs for parts of the network that

already exist (e.g., last mile copper, poles), while excluding the upfront capital expenditures for these assets, which would not actually be incurred and would not be consistent with a forward-looking cost model.

ACA believes that this adjustment methodology corrects many of the issues associated with the CQBAT model's brownfield approach and that a brownfield approach is most consistent with the marginal costs that will actually be incurred by the price-cap LECs to bring broadband to unserved areas. These adjustments must be correctly applied to ensure that the true forward-looking costs are estimated. However, there is no documentation supporting the brownfield adjustment factors included in the input sheet, and it is therefore difficult to determine whether they facilitate accurate estimations of replacement costs.

In addition, ACA believes that as part of the adjusted brownfield model, locations with existing broadband from a price cap LEC that meets the speed requirements should be treated differently from locations that do not have broadband. Locations with existing broadband may require support for the maintenance and periodic replacement of retired portions of the network, while locations without existing broadband may also require support for certain upfront investments that are required to deploy broadband. Since these two types of locations will have different capital expenditure costs, they should therefore have different ACFs to accurately reflect the fact that they have different cost structures and related support requirements.

Q2. Is the specific approach in CACM version two of calculating ACFs by taking into account the economic life of the assets using Gompertz-Makeham curves reasonable?

The justification for (1) the use of Gompertz-Makeham curves to calculate ACFs, and (2) the specific Gompertz-Makeham survival curve parameters used in the model (i.e., the coefficients for CG&S specified in the capital costs input sheet) should be documented so that the approach and related inputs can be evaluated. Specifically, there does not appear to be a documented basis for these inputs, such as an accounting standard, academic study, or comparable precedent.

In its July 7, 2012 comments, the ABC Coalition specifies that, "The use of ELG methods and Gompertz-Makeham survivor curves in estimating telecommunications plant lives is a widely recognized methodology." However, there does not appear to be further support setting forth all the reasons for the selection of this methodology or for the specific survival curve parameters included as model inputs. In addition, ACA notes that there are other methods of cost estimation used in international jurisdictions that could also be explored as alternatives to the Gompertz-Makeham curve methodology.

Accordingly, the reasonableness of this approach, as well as of the specific survival curves used in the model, cannot be determined at this time.

**American Cable Association
Connect America Cost Model (CACM) Virtual Workshop Post
March 7, 2013**

Virtual Workshop Topic: Plant Mix

ACA has reviewed the updated plant mix data filed by the ABC Coalition in January 2013. The current values reported have lower proportions of aerial plant in rural areas than ACA has seen reported by other broadband providers. These assumptions are of particular importance because certain costs associated with deploying buried plant can be significantly more expensive than the cost of deploying aerial plant (e.g., drop cost per foot).

While ACA agrees that using carrier-specific data to develop plant mix percentages is reasonable, the process of using such data to estimate state-wide averages should be transparent. Specifically, the data inputs as well as the calculation methodology (i.e., the process of using the data inputs to determine state-wide averages for each plant type in each density zone) should be clearly documented so that the submissions can be evaluated and verified by the Commission.

**American Cable Association
Connect America Cost Model (CACM) Virtual Workshop Post
March 7, 2013**

Virtual Workshop Topic: Connect America Cost Model (Version 2)

ACA believes it would be helpful to obtain further documentation and clarification explaining the “additional user input to capture replacement capital expenditures” that was referenced in the prior post describing the differences between the CQBAT model and Versions 1 and 2 of the Connect America Cost Model (CACM). Specifically, it is not clear how the adjustment factors in the brownfield adjustment input sheet should be set to include only replacement capital expenditures.