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November 13, 2015

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street S.W.
Washington, DC 20554

Lynne Hewitt Engledow
Pricing Policy Division
Federal Communications Commission
445 12th Street S.W.
Washington, DC 20554

Re: Connect America Fund Docket No. 10-90, *et. al.*
Supplemental Data Filing

Dear Ms. Dortch and Ms. Engledow:

On November 6, 2015, pursuant to a prior staff request, the National Exchange Carrier Association, Inc. (NECA) filed revised data and results for a potential "bifurcated" approach for reform of rate-of-return universal service fund (USF) support mechanisms.[1]

That filing included a chart comparing estimated effects on rural consumers of providing or not providing support for broadband-only Internet access services provided by rate-of-return regulated local exchange carriers (RLECs), based on the proposed bifurcated support mechanism.[2] Rate impacts for this chart were estimated using the cost growth assumptions described under "Scenario 3" of NECA's analysis. Scenario 3 was chosen for these purposes because it appeared to produce aggregate 10-year growth estimates closest to recent growth trends.

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[1] Letter from Regina McNeil, NECA, to Marlene H. Dortch, Secretary – Federal Communications Commission, and Lynne Hewitt Engledow, Pricing Policy Division, Connect America Fund, Docket No. 10-90 (filed Nov. 6, 2015).

[2] *Id.*, Attachment 1, Exhibit 1.

Subsequently, staff requested similar charts be presented using the cost growth assumptions underlying Scenarios 1 and 2 as well. Accordingly, the attached revised filing presents three separate charts displaying estimated consumer rate impacts of providing or not providing RLECs with support for broadband-only Internet access services.

It should be noted that this data continues to be provided to aid in the identification and discussion of issues that may require further examination and does not represent any position on this concept by NECA. Additionally, as noted in NECA's November 6, 2015 letter, NECA is continuing to analyze these data using a different Connect America Fund – Intercarrier Compensation assumption. The results of this analysis will be provided in a further submission.

Regina McNeil

Enclosures

FCC Bifurcated Approach to Broadband Support for Rate-of-Return Regulated Companies (RLECS)

General Modeling Assumptions

Introduction

Modeling the FCC's proposed bifurcated approach for broadband funding requires making significant assumptions about a number of factors, including potential changes in loop investment, plant retirements, and overall changes in loop costs for more than 1,000 small rate-of-return local exchange carriers (RLECs) over time. The assumptions used can produce materially different model results.

The following analysis presents three scenarios intended to simulate, on an aggregate basis, potential effects of the concept under different potential investment growth assumptions.[1] This analysis includes growth in investment and operating expenses based on NECA's September 30, 2015 Annual High Cost Loop Data Submission and application of investment and operating expense limits and overall budget controls as requested by Commission staff. Average actual loop cost growth for the past two years for a consistent sample of 740 cost companies has been 0.95% (equivalent to approximately 10% over 10 years). The attached analysis assumes that future growth rates could change in three different ways:

- **Scenario 1** utilizes recent investment, expense and retirement loop cost trends. Growth and retirement rates for companies with the least depreciated plant (representing recent significant investment) are applied to companies with the most depreciated plant (representing companies most likely to begin material investment in future) and vice versa. This scenario assumes that companies who have built out broadband recently will reduce investment levels, and companies that have not yet built out broadband will invest at a rate similar to companies that have recently built out their networks.
- **Scenario 2** assumes each company's future investment equals the sum of its depreciation expense on old and new investment. With both Scenarios 2 and 3, expense growth has been applied using the aggregate two-year average growth rate (1.05%) of the 740 sample cost companies.

[1] Because these analyses are based on significant assumptions, NECA cannot state with any certainty the modeled results are representative of what would actually happen. Additionally, there are a number of issues still open in this proceeding that are not considered and could alter results (e.g. extent of changes to Parts 32, 36, 54, and 69, effects of benchmarks and cost controls on voice and broadband rates, and achievement of FCC broadband rate benchmarks). Further, while these summaries are intended to provide useful information on the potential aggregate effects of proposed reforms, underlying study area-specific calculations are not expected to be representative of any individual company's results.

- **Scenario 3** assumes each company's future investment equals the sum of its depreciation expense on old and new investment, plus 20 percent. This scenario produces aggregate cost growth close to recent trends.

Summary of Growth Assumption Results

Scenario 1 results in a decrease in modeled aggregate loop costs over 10 years of 9%; Scenario 2 results in a reduction of 2% over the 10 years; and Scenario 3 results in an aggregate increase in loop costs of 6% over the same 10-year period.

At FCC staff's request, these price-outs include certain budget constraints. Benchmarks for the new mechanism for each scenario are set at $45, and projected budget over-runs are eliminated by applying per-line and percent reductions to both the legacy programs and the new mechanism based on their pro-rata share of the projected funding requirement. A detailed explanation of these budget control methods and effects is included in the attached, along with detailed summaries of modeled results for each growth assumption.

General Modeling Assumptions

-Loop costs remain as defined in current rules. Operating expenses follow investment based on relative net investment in the new mechanism to total net investment. This represents a change from current rules where operating expenses follow total investment in service.

-Loop costs associated with investment in place by a "Date Certain" (assumed to be December 31, 2015 for modeling) remain in existing Interstate Common Line Support (ICLS) and High-Cost Loop Support (HCLS) mechanisms, except for costs associated with broadband-only services. These old loop costs will continue to be assigned 25% interstate for voice-only and voice-data services and 100% interstate for broadband-only services.

-Loop costs associated with investment after the Date Certain will go into the new support mechanism. This new investment will be considered 25% interstate for voice-only and voice-data services and 100% interstate for broadband-only services.

-Loop costs associated with investment in broadband-only services, regardless of the date the investment was placed in service, are assigned to the new support mechanism.

-The rate of investment going into the new mechanism will vary by company. For example, a company that completed Fiber-to-the-Premises (FTTP) deployment in 2015 will have little loop cost in the new mechanism, whereas a company just beginning its FTTP deployment in 2016 will have a more rapid increase in loop costs in the new mechanism.

-Service to customers will utilize a combination of old and new investment for a substantial period of time, and the mix of old vs. new will vary by company over time. This means that the amount of loop costs recovered from end users through subscriber line charges (SLCs), existing HCLS support, or the benchmark under the new mechanism must be prorated by company over time, based on the percentage of loop costs a company has in the old mechanisms vs. the new mechanism.

-For example, in 2018 if a company has 80% of its loop cost in old and 20% in new, its 2018 SLCs will be 80% of current levels (i.e., $5.20/$7.36) and the National Average Cost Per Loop (NACPL) for that company will likewise be set at 80% of the current frozen level (i.e., $518.30). Its benchmark for the new mechanism will be set at 20% of the new mechanism benchmark. If another company has 60% of its loop costs in old and 40% in new, in 2018 its SLCs will be $3.90/$5.52, its NACPL will be $388.72 and its new mechanism benchmark will be at 40%. These results will vary by company depending on the company's investment levels going forward. For broadband only lines the total cost of these lines are being assigned to the new mechanism regardless of the plant mix between old and new, therefore the new mechanism benchmark will apply throughout the transition without proration.

-Imputed revenues associated with the new mechanism benchmark and added budget controls will be recovered via a combination of interstate SLCs, existing interstate special access rates and intrastate charges and support mechanisms. For price-out purposes, it is assumed all lines (including voice-only lines) will generate the required revenues from a combination of these revenue sources. However, it is unclear how budget cuts to ICLS (old and new) will be recovered given interstate SLCs are capped.

- New mechanism support, which will be estimated and trued up similar to current ICLS, will be calculated on a combined basis using all new loop investment costs plus costs of old investment associated with broadband-only services, then allocated among new interstate common line costs, interstate broadband-only loop costs and intrastate services. Interstate broadband-only support will be subtracted from interstate special access revenue requirement prior to setting rates. Attachment 1, Exhibit 1 displays potential effects on interstate broadband-only rates.

ESTIMATED EFFECT ON RURAL CONSUMERS OF PROVIDING OR NOT PROVIDING BROADBAND-ONLY INTERNET ACCESS

BASED ON FCC BIFURCATED SUPPORT CONCEPT - SCENARIO 1

Benchmark Component	Benchmark/Retail Rate/Other Amount Needed for Cost Recovery from Individual Consumer for 10/1 Mbps Service						Relevant Costs Covered
	Provide Support Per FCC Proposal			Not Providing Support			
	25th Percentile Rate Band[1]	Median Percentile Rate Band[2]	75th Percentile Rate Band[3]	25th Percentile Rate Band[1]	Median Percentile Rate Band[2]	75th Percentile Rate Band[3]	
New Mechanism Benchmark Plus Budget Control = Total Effective Benchmark[4]	$45.00 plus $5.77 = $50.77	$45.00 plus $7.72 = $52.72	$45.00 plus $11.72 = $56.72	NA	NA	NA	Regulated Local Loop Costs and Facilities-Based Network Costs of Loop and Transmission to Enable Broadband Internet Access (developed on Title II basis pursuant to Parts 32, 36, 64 and 69)
Wholesale Transmission Tariff Rate[5]	$18.14	$28.14	$38.13	$101.49	$134.90	$188.98	
Total Benchmark for Supported/Regulated Network Elements	$68.91	$80.86	$94.85	$101.49	$134.90	$188.98	
Middle Mile and Access Service Connection Point Costs[6]	$6.51	$6.81	$7.12	$6.51	$6.81	$7.12	Regulated and unregulated network costs for transmission through the Broadband Access Service Connection Point and connections to Internet backbone
Approximate Consumer Rate for Retail Broadband Internet Access[7]	$75.42	$87.67	$101.97	$108.00	$141.71	$196.10	Excludes unregulated non-network costs

Notes

[1] Rates are displayed for the approximate 25th, 50th (median), and 75th percentile rate band assignments based on NECA's Tariff No. 5 filed June 16, 2015 Filing (Transmittal No. 1455). The 25th percentile uses rate band 9 for DSL Voice-Data rate elements, and rate band 11 for DSL Data-Only rate elements.

[2] The median percentile uses rate band 13 for DSL Voice-Data rate elements and rate band 14 for DSL Data-Only rate elements.

[3] The 75th percentile uses rate band 17 for DSL Voice-Data rate elements and rate band 19 for DSL Data-Only rate element.

[4] The median percentile budget control of $7.72 represents the Scenario 1, year 2025 priceout amount for the New Mechanism budget control variance on a per line per month basis. This represents the estimated additional charge to customers to recover loop costs resulting from the effects of the Bifurcated Support budget constraint.

[5] The wholesale transmission rate uses a sum of two rate elements, ETS One-Way Multimedia Virtual Circuit Channel (MM-VCC) with 10 Mbps Capacity and either DSL Voice-Data 1/6 Mbps, 3 Year Option (view with Support) or DSL Data-Only 1/6 Mbps, 3 Year Option (view with No Support). The ETS One-Way MM-VCC is added to enable internet access bandwidth of 10/1 Mbps.

[6] The middle mile cost of $6.00 per broadband line is calculated using actual middle mile costs (from NECA's 2014 Company Services Questionnaire), divided by actual broadband lines. Additional cost per line for the Broadband Access Service Connection Point is based on an Ethernet Basic Port and Channel Termination rate with representative capacity in each illustrative rate band divided by the average number of broadband lines per company

[7] Total approximate consumer rate would also need to include the unregulated non-network costs that the typical ISP would incur to deliver a Broadband Internet Access product to a consumer. Such costs may include sales and marketing functions, help desk operations, etc.

ESTIMATED EFFECT ON RURAL CONSUMERS OF PROVIDING OR NOT PROVIDING BROADBAND-ONLY INTERNET ACCESS

BASED ON FCC BIFURCATED SUPPORT CONCEPT - SCENARIO 2

Benchmark Component	Benchmark/Retail Rate/Other Amount Needed for Cost Recovery from Individual Consumer for 10/1 Mbps Service						Relevant Costs Covered
	Provide Support Per FCC Proposal			Not Providing Support			
	25th Percentile Rate Band[1]	Median Percentile Rate Band[2]	75th Percentile Rate Band[3]	25th Percentile Rate Band[1]	Median Percentile Rate Band[2]	75th Percentile Rate Band[3]	
New Mechanism Benchmark Plus Budget Control = Total Effective Benchmark[4]	$45.00 plus $8.49 = $53.49	$45.00 plus $11.92 = $56.92	$45.00 plus $18.65 = $63.65	NA	NA	NA	
Wholesale Transmission Tariff Rate[5]	$18.14	$28.14	$38.13	$101.49	$134.90	$188.98	Regulated Local Loop Costs and Facilities-Based Network Costs of Loop and Transmission to Enable Broadband Internet Access (developed on Title II basis pursuant to Parts 32, 36, 64 and 69)
Total Benchmark for Supported/Regulated Network Elements	$71.63	$85.06	$101.78	$101.49	$134.90	$188.98	
Middle Mile and Access Service Connection Point Costs[6]	$6.51	$6.81	$7.12	$6.51	$6.81	$7.12	Regulated and unregulated network costs for transmission through the Broadband Access Service Connection Point and connections to Internet backbone
Approximate Consumer Rate for Retail Broadband Internet Access[7]	$78.14	$91.87	$108.90	$108.00	$141.71	$196.10	Excludes unregulated non-network costs

Notes

[1] Rates are displayed for the approximate 25th, 50th (median), and 75th percentile rate band assignments based on NECA's Tariff No. 5 filed June 16, 2015 Filing (Transmittal No. 1455). The 25th percentile uses rate band 9 for DSL Voice-Data rate elements, and rate band 11 for DSL Data-Only rate elements.

[2] The median percentile uses rate band 13 for DSL Voice-Data rate elements and rate band 14 for DSL Data-Only rate elements.

[3] The 75th percentile uses rate band 17 for DSL Voice-Data rate elements and rate band 19 for DSL Data-Only rate element.

[4] The median percentile budget control of $11.92 represents the Scenario 2, year 2025 priceout amount for the New Mechanism budget control variance on a per line per month basis. This represents the estimated additional charge to customers to recover loop costs resulting from the effects of the Bifurcated Support budget constraint.

[5] The wholesale transmission rate uses a sum of two rate elements, ETS One-Way Multimedia Virtual Circuit Channel (MM-VCC) with 10 Mbps Capacity and either DSL Voice-Data 1/6 Mbps, 3 Year Option (view with Support) or DSL Data-Only 1/6 Mbps, 3 Year Option (view with No Support). The ETS One-Way MM-VCC is added to enable internet access bandwidth of 10/1 Mbps.

[6] The middle mile cost of $6.00 per broadband line is calculated using actual middle mile costs (from NECA's 2014 Company Services Questionnaire), divided by actual broadband lines. Additional cost per line for the Broadband Access Service Connection Point is based on an Ethernet Basic Port and Channel Termination rate with representative capacity in each illustrative rate band divided by the average number of broadband lines per company

[7] Total approximate consumer rate would also need to include the unregulated non-network costs that the typical ISP would incur to deliver a Broadband Internet Access product to a consumer. Such costs may include sales and marketing functions, help desk operations, etc.

ESTIMATED EFFECT ON RURAL CONSUMERS OF PROVIDING OR NOT PROVIDING BROADBAND-ONLY INTERNET ACCESS

BASED ON FCC BIFURCATED SUPPORT CONCEPT - SCENARIO 3

Benchmark Component	Benchmark/Retail Rate/Other Amount Needed for Cost Recovery from Individual Consumer for 10/1 Mbps Service						Relevant Costs Covered
	Provide Support Per FCC Proposal			Not Providing Support			
	25th Percentile Rate Band[1]	Median Percentile Rate Band[2]	75th Percentile Rate Band[3]	25th Percentile Rate Band[1]	Median Percentile Rate Band[2]	75th Percentile Rate Band[3]	
New Mechanism Benchmark Plus Budget Control = Total Effective Benchmark[4]	$45.00 plus $13.07 = $58.07	$45.00 plus $18.32 = $63.32	$45.00 plus $28.90 = $73.90	NA	NA	NA	
Wholesale Transmission Tariff Rate[5]	$18.14	$28.14	$38.13	$101.49	$134.90	$188.98	Regulated Local Loop Costs and Facilities-Based Network Costs of Loop and Transmission to Enable Broadband Internet Access (developed on Title II basis pursuant to Parts 32, 36, 64 and 69)
Total Benchmark for Supported/Regulated Network Elements	$76.21	$91.46	$112.03	$101.49	$134.90	$188.98	
Middle Mile and Access Service Connection Point Costs[6]	$6.51	$6.81	$7.12	$6.51	$6.81	$7.12	Regulated and unregulated network costs for transmission through the Broadband Access Service Connection Point and connections to Internet backbone
Approximate Consumer Rate for Retail Broadband Internet Access[7]	$82.72	$98.27	$119.15	$108.00	$141.71	$196.10	Excludes unregulated non-network costs

Notes

[1] Rates are displayed for the approximate 25th, 50th (median), and 75th percentile rate band assignments based on NECA's Tariff No. 5 filed June 16, 2015 Filing (Transmittal No. 1455). The 25th percentile uses rate band 9 for DSL Voice-Data rate elements, and rate band 11 for DSL Data-Only rate elements.

[2] The median percentile uses rate band 13 for DSL Voice-Data rate elements and rate band 14 for DSL Data-Only rate elements.

[3] The 75th percentile uses rate band 17 for DSL Voice-Data rate elements and rate band 19 for DSL Data-Only rate element.

[4] The median percentile budget control of $18.32 represents the Scenario 3, year 2025 priceout amount for the New Mechanism budget control variance on a per line per month basis. This represents the estimated additional charge to customers to recover loop costs resulting from the effects of the Bifurcated Support budget constraint.

[5] The wholesale transmission rate uses a sum of two rate elements, ETS One-Way Multimedia Virtual Circuit Channel (MM-VCC) with 10 Mbps Capacity and either DSL Voice-Data 1/6 Mbps, 3 Year Option (view with Support) or DSL Data-Only 1/6 Mbps, 3 Year Option (view with No Support). The ETS One-Way MM-VCC is added to enable internet access bandwidth of 10/1 Mbps.

[6] The middle mile cost of $6.00 per broadband line is calculated using actual middle mile costs (from NECA's 2014 Company Services Questionnaire), divided by actual broadband lines. Additional cost per line for the Broadband Access Service Connection Point is based on an Ethernet Basic Port and Channel Termination rate with representative capacity in each illustrative rate band divided by the average number of broadband lines per company

[7] Total approximate consumer rate would also need to include the unregulated non-network costs that the typical ISP would incur to deliver a Broadband Internet Access product to a consumer. Such costs may include sales and marketing functions, help desk operations, etc.

FCC Bifurcated Approach to Broadband Support for RLECs

Technical Notes and Assumptions

In addition to the General Modeling Assumptions, the following are Technical Notes and Assumptions pertaining to the FCC's latest request to model its Bifurcated Mechanism:

Growth assumptions vary by scenario as follows:

Scenario 1: Investment is modeled for old and new mechanisms based on two year average growth and removal rates with higher growth rates applied to study areas with a higher percent of depreciated plant (growth rates based on data in Exhibit 1). Companies were stratified into four groups, and an annual investment growth amount was calculated based on the two-year average. This fixed amount is added annually to the new mechanism investment. In addition to investment growth, operating expenses were grown in the same manner as investment (based on data in Attachment 2, Exhibit 1).

Scenario 2: The old depreciation expense for the base year becomes the new Telecommunications Plant in Service (New TPIS) amount for 2016. For ensuing years, New TPIS is grown by the sum of depreciation expense amounts for both the old and new investment from the prior year. Operating expenses were grown at the two-year aggregate average expense growth rate for rate of return companies (1.05%).

Scenario 3: The old depreciation expense for the base year grown by 20 percent becomes the New TPIS for 2016. For the ensuing years, the New TPIS is grown by the sum of the depreciation expense amounts for both the old and new investment from the prior year, grown by 20 percent. Expenses were grown at the two-year aggregate average expense growth rate for RLECs (1.05%).

Common assumptions for all three scenarios:

1. Price-outs assume 100% of RLEC study areas currently on rate-of-return regulation remain on rate-of-return regulation.

2. Loop cost data is based on the HCLS definition for loop cost. Actual loop costs assigned to Interstate under current FCC rules include additional cost assignments required under other rules (e.g., costs related to land and buildings, customer service, etc.). For purposes of this price-out, in order to more closely simulate the Commission's overall cost allocation rules, an adjustment factor of 10% has been applied to the HCLS unseparated revenue requirement to capture accounts included in Interstate loop costs but not included for the HCLS loop cost calculation.

3. The 2015 and new mechanism cost amounts are based on calendar year 2014 HCLS Data contained in NECA's September 30, 2015 annual USF submission.(For the remaining assumptions the calendar year 2014 data in the NECA 2015 Submission is the "2015" data). Interstate Common Line data for 2015 reflects 2015-2016 projected test period amounts from the June 2015 Annual Tariff Filing.

4. Depreciation expense for old investment for all scenarios is based on the ratio by study area between 2015 depreciation expense and 2015 TPIS applied annually to the corresponding old TPIS amount.

5. Retirement is calculated as an annual fixed amount by applying two-year average removal factors to company-specific 2015 TPIS amounts and company-specific operating expense (OPEX) is grown by using two-year average OPEX growth factors. For the first scenario the removal factors and the OPEX growth factors are based on the stratified group data shown in Exhibit 1 with higher removal rates and higher OPEX growth applied to study areas with higher percent of depreciated plant and vice versa. For scenarios 2 and 3, retirement of old investment and OPEX growth are calculated using the two-year aggregate average of all companies, shown in Exhibit 1 rather than the stratified averages used in scenario 1.

6. For new mechanism investment, a 20-year life is assumed (average of longer Cable & Wire Facility (CWF) lives and shorter Central Office Equipment (COE) lives) resulting in an annual depreciation rate of 5% applied to New TPIS. It is assumed for all scenarios that no new investment is removed over the 10-year period.

7. For new investment support calculations, the assumed authorized rate of return is 9.5% per FCC direction.

8. Expenses, other than depreciation expense and accumulated depreciation reserve, are allocated between old and new mechanisms based on the relationship of new net loop investment to total loop net investment.

9. Bifurcated benchmarks, needed to reflect the use of both old and new investment to provide service, were calculated as follows:
    a. The frozen NACPL and new mechanism benchmark were adjusted annually based on the percent of loop cost in old versus new by study area.
    b. SLCs were adjusted annually by percent reduction in Common Line revenue requirements by study area.
    c. The benchmark revenue for the new mechanism was set at $45 per month for each scenario and held constant over the 10 years and adjusted to reflect the percent of loop cost in the new mechanism by year by study area, with the

exception of broadband only lines, for which the $45 is applicable across the entire 10 years.

10. Broadband-only lines are based on lines reported by NECA Digital Subscriber Line (DSL) pool participants from June 2015 reported counts, extrapolated to the total population of RLECs. For purposes of estimating future broadband-only lines for all study areas, the percentage of broadband-only lines to total access lines for all study areas reporting broadband-only lines was applied to the access line counts for study areas not reporting broadband-only lines. Broadband-only line counts were then grown for all study areas at the rate of 5% per year. The line counts for voice-only and voice-data lines are grown based on the most recent two-year average change among NECA DSL pool participants. Voice-only line growth was -11.65% and voice-data and broadband-only combined growth was +2.49%. (For modeling purposes, the voice-data lines were determined residually by subtracting the calculated broadband-only lines from total voice-data and broadband-only lines grown at +2.49%.) Category 1.3 loop growth was assumed to be -3.25%.

11. Broadband-only lines will be supported out of the new mechanism per FCC direction. Existing costs as well as new costs associated with broadband-only lines are included in the new mechanism with an assumed rate of return on existing investment of 11.25%. Existing broadband-only costs are estimated based on a ratio of broadband-only lines to total lines applied to total loop costs.

12. Average Schedule companies' data was modeled based on aggregate cost company trends.

13. The RLEC high-cost support budget was assumed to be $1.625B and held constant with RLEC Connect America Fund – Intercarrier Compensation (CAF-ICC) amounts removed but assumed to remain constant across all years at a level of $375 million per FCC direction.

14. ICLS amounts were supplemented with USAC ICLS projected data for those study areas not in NECA's Common Line tariff. Common Line revenue requirements were reduced by the proportion of old loop costs to total (old plus new) loop costs.

15. Consistent with the treatment for ICLS, lines and costs associated with acquired exchanges, treated separately for HCLS per section 54.305 of the Commission's rules, have been combined with the data for the acquiring study areas for purposes of determining the assignment of expenses between the legacy and new mechanisms based on net investment in the new mechanism of the combined entity to total net investment of the combined entity. HCLS for the acquired exchanges is phased down annually by the average annual percent change in loops of -3.25%.

16. Frozen MAG amounts are transferred from the legacy ICLS mechanism to the new mechanism based on the ratio of new net plant to total net plant by study area.

17. The Corporate Operations Expense Limit is reflected in both old and new mechanism support calculations, applied to total expense prior to allocation to old and new.

18. Operating expenses, including corporate operations expense and taxes, are limited based on a double-log regression methodology provided by the Commission and described further in Attachment 3.

19. Capital expenditures associated with the new mechanism are limited based on the Capital Budget Mechanism methodology described in the Rural Associations' *ex parte* presentation in this proceeding, dated August 31, 2015.

20. The $3000 annual cap on support is applied to the sum of old investment and new investment support divided by sum of 1.3 loops plus broadband-only lines.

21. The overall budget control mechanism is then applied to HCLS, ICLS and the new mechanism support as required to achieve the loop support budget of $1.625 billion. See Attachment 4 for description of methodology used.

22. Safety Valve and Safety Net Support are not included in the modeling of support amounts.

23. The effects of any potential competitive overlap adjustments are not reflected in the modeling of support amounts.

Loop Cost Growth/Removal Trends

Attachment 2
Exhibit 1

Cost Company by % Depreciated (2015-1 HCL data - latest view of annual submission filed September 30, 2015)

Based on a consistent sample of 754 cost companies using High Cost Loop data (official view), excluding price cap affiliates

All companies (754)	Account	2012	2013	2014	Variance $ 12-13	Variance % 12-13	Variance $ 13-14	Variance % 13-14	Average Variance $	Average Variance %	Average 2013-2014
	Depreciation Expense	808,604,480	807,541,118	820,161,096	(1,063,362)	-0.13%	12,619,978	1.56%	5,778,308	0.72%	813,851,107
	Accum. Depreciation	11,010,250,430	11,511,989,412	12,081,225,706	501,738,982	4.56%	569,236,294	4.94%	535,487,638	4.75%	11,796,607,559
	TPIS	16,902,310,102	17,447,463,808	18,147,664,990	545,153,706	3.23%	700,201,182	4.01%	622,677,444	3.62%	17,797,564,399
	Net Plant Invest.	6,063,725,352	6,103,864,458	6,248,433,851	40,139,106	0.66%	144,569,393	2.37%	92,354,250	1.52%	6,176,149,155
	Operating Expenses	1,467,504,695	1,459,656,138	1,498,133,932	(7,848,557)	-0.53%	38,477,794	2.64%	15,314,619	1.05%	1,478,895,035
	Taxes	161,170,863	161,213,802	157,477,693	42,939	0.03%	(3,736,109)	-2.32%	(1,846,585)	-1.15%	159,345,748
	Loop Cost RRQ	3,119,449,140	3,115,095,810	3,178,721,529	(4,353,330)	-0.14%	63,625,719	2.04%	29,636,194	0.95%	3,146,908,669
	TPIS - Accum.Dep.	5,892,059,672	5,935,474,396	6,066,439,284	43,414,724		130,964,888		87,189,806		6,000,956,840
	% Accum.Dep. of TPIS	65.14%	65.98%	66.57%							66.28%
	Avg. Plant Removal										-278,363,469
	Removal Factor										-1.53%

76 - 100% (Most Dep.)	Account	2012	2013	2014	Variance $ 12-13	Variance % 12-13	Variance $ 13-14	Variance % 13-14	Average Variance $	Average Variance %	Average 2013-2014
	Depreciation Expense	121,414,952	111,913,225	107,374,394	(9,501,727)	-7.83%	(4,538,831)	-4.06%	(7,020,279)	-5.94%	109,643,810
	Accum. Depreciation	2,449,032,764	2,536,560,559	2,607,681,441	87,527,795	3.57%	71,120,882	2.80%	79,324,339	3.19%	2,572,121,000
	TPIS	2,851,647,804	2,885,194,220	2,916,924,517	33,546,417	1.18%	31,730,296	1.10%	32,638,357	1.14%	2,901,059,369
	Net Plant Invest.	421,843,021	367,615,633	328,837,375	(54,227,388)	-12.85%	(38,778,258)	-10.55%	(46,502,823)	-11.70%	348,226,504
	Operating Expenses	287,542,470	280,859,725	281,176,667	(6,682,744)	-2.32%	316,942	0.11%	(3,182,901)	-1.11%	281,018,196
	Taxes	26,392,712	26,905,848	27,004,752	513,136	1.94%	98,904	0.37%	306,020	1.16%	26,955,300
	Loop Cost RRQ	482,807,474	461,035,558	452,550,018	(21,771,916)	-4.51%	(8,485,540)	-1.84%	(15,128,728)	-3.17%	456,792,788
	TPIS - Accum.Dep.	402,615,040	348,633,662	309,243,076	(53,981,378)		(39,390,586)		(46,685,982)		328,938,369
	% Accum.Dep. of TPIS	85.88%	87.92%	89.40%							88.66%
	Avg. Plant Removal										-30,319,471
	Removal Factor										-1.04%

51 - 75%	Account	2012	2013	2014	Variance $ 12-13	Variance % 12-13	Variance $ 13-14	Variance % 13-14	Average Variance $	Average Variance %	Average 2013-2014
	Depreciation Expense	241,447,803	238,188,429	234,888,039	(3,259,374)	-1.35%	(3,300,390)	-1.39%	(3,279,882)	-1.37%	236,538,234
	Accum. Depreciation	3,850,215,143	4,014,908,949	4,201,247,499	164,693,806	4.28%	186,338,550	4.64%	175,516,178	4.46%	4,108,078,224
	TPIS	5,211,558,159	5,326,508,951	5,478,066,156	114,950,792	2.21%	151,557,205	2.85%	133,253,998	2.53%	5,402,287,553
	Net Plant Invest.	1,421,882,168	1,371,654,735	1,342,291,129	(50,227,433)	-3.53%	(29,363,606)	-2.14%	(39,795,519)	-2.84%	1,356,972,932
	Operating Expenses	468,145,928	460,632,071	473,521,077	(7,513,857)	-1.61%	12,889,006	2.80%	2,687,574	0.60%	467,076,574
	Taxes	52,030,143	47,013,189	41,395,429	(5,016,955)	-9.64%	(5,617,760)	-11.95%	(5,317,357)	-10.80%	44,204,309
	Loop Cost RRQ	921,585,618	900,144,846	900,812,297	(21,440,772)	-2.33%	667,450	0.07%	(10,386,661)	-1.13%	900,478,571
	TPIS - Accum.Dep.	1,361,343,017	1,311,600,002	1,276,818,657	(49,743,015)		(34,781,345)		(42,262,180)		1,294,209,329
	% Accum.Dep. of TPIS	73.88%	75.38%	76.69%							76.04%
	Avg. Plant Removal										-61,022,056
	Removal Factor										-1.11%

26 - 50%	Account	2012	2013	2014	Variance $ 12-13	Variance % 12-13	Variance $ 13-14	Variance % 13-14	Average Variance $	Average Variance %	Average 2013-2014
	Depreciation Expense	235,818,670	241,999,238	248,671,445	6,180,568	2.62%	6,672,208	2.76%	6,426,388	2.69%	245,335,341
	Accum. Depreciation	2,915,589,072	3,074,652,397	3,280,907,915	159,063,325	5.46%	206,255,518	6.71%	182,659,422	6.08%	3,177,780,156
	TPIS	4,729,435,777	4,886,971,443	5,186,963,251	157,535,666	3.33%	299,991,808	6.14%	228,763,737	4.73%	5,036,967,347
	Net Plant Invest.	1,867,509,891	1,865,494,871	1,965,369,469	(2,015,020)	-0.11%	99,874,598	5.35%	48,929,789	2.62%	1,915,432,170
	Operating Expenses	401,669,647	404,435,508	416,604,797	2,765,861	0.69%	12,169,289	3.01%	7,467,575	1.85%	410,520,153
	Taxes	48,129,082	50,801,516	48,025,708	2,672,434	5.55%	(2,775,808)	-5.46%	(51,687)	0.04%	49,413,612
	Loop Cost RRQ	895,712,261	907,104,435	934,406,016	11,392,174	1.27%	27,301,581	3.01%	19,346,877	2.14%	920,755,225
	TPIS - Accum.Dep.	1,813,846,706	1,812,319,047	1,906,055,336	(1,527,659)		93,736,290		46,104,315		1,859,187,191
	% Accum.Dep. of TPIS	61.65%	62.92%	63.25%							63.09%
	Avg. Plant Removal										-62,675,920
	Removal Factor										-1.21%

0 - 25% (Least Dep.)	Account	2012	2013	2014	Variance $ 12-13	Variance % 12-13	Variance $ 13-14	Variance % 13-14	Average Variance $	Average Variance %	Average 2013-2014
	Depreciation Expense	209,923,055	215,440,226	229,227,217	5,517,171	2.63%	13,786,992	6.40%	9,652,081	4.51%	222,333,722
	Accum. Depreciation	1,795,413,452	1,885,867,507	1,991,388,851	90,454,056	5.04%	105,521,344	5.60%	97,987,700	5.32%	1,938,628,179
	TPIS	4,109,668,363	4,348,789,194	4,565,711,067	239,120,831	5.82%	216,921,873	4.99%	228,021,352	5.40%	4,457,250,130
	Net Plant Invest.	2,352,490,273	2,499,099,220	2,611,935,878	146,608,947	6.23%	112,836,659	4.52%	129,722,803	5.37%	2,555,517,549
	Operating Expenses	310,146,650	313,728,834	326,831,391	3,582,184	1.15%	13,102,557	4.18%	8,342,371	2.67%	320,280,112
	Taxes	34,618,926	36,493,249	41,051,804	1,874,323	5.41%	4,558,555	12.49%	3,216,439	8.95%	38,772,527
	Loop Cost RRQ	819,343,787	846,810,971	890,953,199	27,467,184	3.35%	44,142,228	5.21%	35,804,706	4.28%	868,882,085
	TPIS - Accum.Dep.	2,314,254,911	2,462,921,686	2,574,322,216	148,666,775		111,400,529		130,033,652		2,518,621,951
	% Accum.Dep. of TPIS	43.69%	43.37%	43.62%							43.49%
	Avg. Plant Removal										-124,346,022
	Removal Factor										-2.72%

Notes:
(1) Based on HCL Algorithm
(2) Operating Expenses incl. C&WF & COE Maintenance, Network Support, General Support, Network Operations, Corporate Operations, Rents & Benefits

Attachment 3

FCC Bifurcated Approach to Broadband Support for RLECs

Double Log Operating Expense (OPEX) Regression Methodology

- OPEX costs are to be limited by comparing companies' monthly OPEX costs per location to regression model-generated monthly expenses per location, plus two standard deviations. Adding two standard deviations to regression results is a common practice for identifying outliers. This method has been applied by the FCC in constructing voice and broadband rate ceilings.

- **OPEX Limits Regression Model According to FCC Specifications**
  - The OPEX per location variable is related in a regression to locations and density.
  - Locations include housing units and business units and correspond to Total Locations reported in the ACAM V.2 illustrative model results.
  - Density is defined as locations per square mile. Square miles are calculated based on study area boundary maps submitted to the FCC and used in ACAM.
  - OPEX costs are taken from the 2015 USF data submission and they reflect the Corporate Operations Expense Limit.
  - Both the dependent and the independent variables are used in regression in their logarithmic forms.
  - The square of the logarithm of density is also included as an independent variable to better capture the effect of density on costs, characterized by initial economies followed by diseconomies of density for very high density areas.
  - All observations in the regression are equally weighted, including potential outliers.

- The preliminary limit formula is constructed by adding two standard deviations to the exponentiated regression results. The same standard deviation is used for all study areas.

- The preliminary limit formula is shown below.

Monthly Limit per Location =

$$EXP\ \{6.182459 - 0.228153 \times \ln Locations - 0.270978 \times \ln Density + 0.026398 \times [\ln Density]^2\} + 94.8694$$

- **Year-to-Year Limit Adjustments**
  - Monthly per location OPEX limits calculated based on the final formulas would be adjusted each year for inflation, based on the annual percentage change in the United States Department of Commerce's Gross Domestic Product-Chained Price Index (GDP-CPI).

FCC Bifurcated Approach to Broadband Support for RLECs

Budget Control Process

Background:

The FCC has indicated that a maximum of $2.0 billion will be made available for high cost support on an annual basis. For purposes of this price-out the FCC requested use of an overall budget control mechanism whereby support reductions would be accomplished through a combination of per line and pro rata adjustments, similar to the approach suggested for the new mechanism in the Associations' Data Connection Support (DCS) proposal previously submitted in this proceeding. Unlike the DCS proposal, which applied reductions solely to the new mechanism, per staff request this approach reduces support across all programs, legacy and new, to satisfy budgetary constraints. Expansion of the budget control methodology contained in the DCS proposal to incorporate HCLS and ICLS is discussed below.

FCC Budget Control Methodology:

Assuming the total high cost support budget is $2 Billion, CAF-ICC is assumed to be funded at $375 million annually per FCC direction with the remaining $1.625 billion in support available for distribution to HCLS, ICLS and the new mechanism for loop support.

To illustrate the application of this method: in year 1 Scenario 1, projected support amounts, after taking into consideration limits to new capital investment and operating expenses as well as existing corporate operations expense limits and the annual $3,000 cap on high cost support, exceed the available $1.625 billion budget by $80.3 million. Individual company payments will therefore need to be reduced to satisfy budget constraints. HCLS is targeted to be funded at $710.8 million, ICLS is projected to be $795.0 million, and the new mechanism requires $199.5 million. Collectively, the three programs require $1.705.3 billion for which only $1.625 billion is available, resulting in a potential budget overrun of $80.3 million. The following two-step process is used to reduce individual study area support amounts to satisfy budgetary constraints:

Step 1: Each program would have its support reduced by a pro-rata share of the total and then each program would be adjusted by a per line and percent reduction to satisfy the budget constraint.

In the above example, HCLS accounts for 41.7 percent of the total support requirement ($710.8m/$1,705m), ICLS 46.6 percent with the remaining 11.7 percent being attributable to the new mechanism. Thus, the budget overrun of $80.3 million would be prorated among the three programs using the derived percentages:

HCLS - $33.5 million (from $710.8 to $677.3 million)
ICLS - $37.4 million (from $795.0.6 to $757.6 million)
New - $9.4 million (from $199.5 to $190.1 million)

Step 2: Each of the three mechanisms would then utilize the proposed DCS Budget Control methodology for determining the reductions needed to satisfy the budgetary constraints.

Using HCLS as an example, the $33.5 million would be divided by 2 to determine the amount for which the per line reduction is to apply. The resulting $16.75 million would be divided by the number of Category 1.3 lines for study areas eligible to receive HCLS to determine the per line reduction to be applied to each study area's Category 1.3 lines. (For display purposes, this amount is divided by 12 to produce a monthly reduction per line). The impact on each study area's support would then be determined by multiplying the per line amount by each study area's Category 1.3 lines. Each study area's preliminary adjusted support would then be determined by subtracting the reduction from the original support amount. (Since a study area cannot receive negative support, if the adjusted support is less than zero it is set to zero.) The preliminary adjusted support amounts for all study areas are then summed and compared to total amount of support available for distribution to determine the pro rata adjustment factor.

For example, in Year 1, Scenario 1, after application of the per line reductions, the HCLS preliminary fund size was reduced to $694.2 million. The budget control amount of $677.3 million was then divided by this amount to determine the pro rata adjustment factor. In this instance, the pro rata adjustment for HCLS would be .9757 applied to the preliminary support amount to determine the study area's budget-controlled HCLS amount. Together the per line reductions applied to the original support amounts and the pro rata adjustment applied to the preliminary amount of $694.2 million produce the reductions necessary to meet the budget control amount.

The methodology described above for the HCLS budget control adjustment is used to determine budget controlled amounts for both ICLS and the new mechanism. Table 1 below displays year 1 impacts of the budget control mechanism for each of the three scenarios.

Table 1 Budget Control Impacts Year 1

	Scenario 1	Scenario 2	Scenario 3
Total Support Adjustment Amount	$80.3 M	$106.1 M	$127.0 M
HCLS	**-$33.5M**	**-$43.5 M**	**-$51.4 M**
Per Line per Month	-$0.65	-$0.85	-$1.00
Percent	97.57 %	96.80%	96.19%
ICLS	**-$37.4 M**	**-$47.8 M**	**-$55.2 M**
Per Line per Month	-$0.44	-$0.56	-$0.65
Percent	97.59%	96.84%	96.24%
New	**-$9.4 M**	**-$14.8 M**	**-$20.4 M**
Per Line per Month	-$0.13	-$0.21	-$0.28
Percent	97.56%	96.80%	96.19%

Table 2 displays the budget control impacts for year 10.

Table 2 Budget Control Impacts Year 10

	Scenario 1	Scenario 2	Scenario 3
Total Support Adjustment Amount	$400.6 M	$561.8 M	$844.6 M
HCLS	**-$55.7 M**	**-$71.8 M**	**-$94.7 M**
Per Line per Month	-$1.78	-$2.06	-$2.66
Percent	87.81%	83.25%	76.72%
ICLS	**-$31.5 M**	**-$25.6 M**	**-$29.8 M**
Per Line per Month	-$0.93	-$0.73	-$0.85
Percent	88.89%	85.17%	79.15%
New	**-$313.4 M**	**-$464.4 M**	**-$720.1 M**
Per Line per Month	-$3.93	-$6.01	-$9.08
Percent	88.74%	84.86%	78.75%

Attachment 5

Scenarios 1-3

FCC Bifurcated Mechanism - Preliminary Modeling

Scenario 1: Growth factors stratified by depreciation levels; Benchmark = $45

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	Base Year 2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Legacy Support Mechanisms -Existing Investment											
High Cost Loop Support Cap	$ 735,165,218	$ 718,696,728	$ 700,566,166	$ 682,892,983	$ 665,665,642	$ 648,872,895	$ 632,503,778	$ 616,547,605	$ 600,993,959	$ 585,832,684	$ 571,053,883
High Cost Loop Support with Frozen NACPL after Adjustment Factor	$ 732,584,114	$ 710,800,256	$ 674,390,060	$ 655,302,018	$ 627,101,474	$ 587,551,379	$ 537,690,543	$ 482,366,976	$ 417,938,611	$ 351,776,555	$ 281,707,723
Adjustment Factor		0.90	0.86	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ICLS	940,244,722	795,020,949	705,509,622	621,607,134	541,977,389	467,202,199	395,993,846	329,017,337	262,632,140	209,670,067	159,118,422
New Mechanism Support											
Percent of Revenue Requirement Assigned to New Mechanism		16.74%	27.39%	37.06%	45.95%	54.17%	61.99%	69.17%	75.95%	81.25%	86.18%
Loop Cost Assigned to New Mechanism		$ 631,309,444	$ 1,044,851,522	$ 1,423,307,725	$ 1,763,676,508	$ 2,072,437,582	$ 2,354,629,137	$ 2,614,781,601	$ 2,832,297,974	$ 3,037,568,058	$ 3,221,121,184
Benchmark Revenue		$ 430,987,917	$ 647,766,648	$ 827,472,765	$ 984,422,492	$ 1,120,933,676	$ 1,246,052,154	$ 1,354,153,890	$ 1,460,307,421	$ 1,537,211,055	$ 1,612,930,770
New Mechanism Support		$ 199,476,460	$ 395,223,151	$ 592,313,119	$ 773,126,997	$ 941,731,698	$ 1,095,413,745	$ 1,246,081,722	$ 1,355,156,341	$ 1,479,329,801	$ 1,584,796,859
Total Loop "Old" Investment High Cost Support	$ 1,672,828,836	$ 1,505,821,205	$ 1,379,899,682	$ 1,276,909,152	$ 1,169,078,863	$ 1,054,753,578	$ 933,684,389	$ 811,384,313	$ 680,570,751	$ 561,446,622	$ 440,826,145
Total Loop High Cost Support Old plus New	$ 1,672,828,836	$ 1,705,297,665	$ 1,775,122,833	$ 1,869,222,271	$ 1,942,205,860	$ 1,996,485,276	$ 2,029,098,134	$ 2,057,466,035	$ 2,035,727,092	$ 2,040,776,423	$ 2,025,623,004
Total RLEC High Cost Support Budget		**$1,625,000,000**	**$1,625,000,000**	**$1,625,000,000**	**$1,625,000,000**	**$1,625,000,000**	**$1,625,000,000**	**$1,625,000,000**	**$1,625,000,000**	**$1,625,000,000**	**$1,625,000,000**
Budget Variance		$80,297,665	$150,122,833	$244,222,271	$317,205,860	$371,485,276	$404,098,134	$432,466,035	$410,727,092	$415,776,423	$400,623,004
Budget Variance per Line per Month		$1.79	$3.45	$5.74	$7.59	$9.01	$9.90	$10.66	$10.15	$10.26	$9.86
HCLS adjusted for Budget Variance		$ 677,330,673	$ 617,356,629	$ 569,683,871	$ 524,681,712	$ 478,225,912	$ 430,608,613	$ 380,976,561	$ 333,615,565	$ 280,107,559	$ 225,992,225
$ per line per month		$0.65	$1.15	$1.73	$2.01	$2.12	$2.11	$2.16	$1.90	$1.86	$1.78
%		97.57%	95.51%	92.84%	90.77%	89.15%	88.16%	87.43%	87.65%	87.66%	87.81%
ICLS adjusted for Budget Variance		$ 757,585,651	$ 645,844,397	$ 540,391,375	$ 453,460,303	$ 380,270,059	$ 317,131,039	$ 259,860,024	$ 209,643,635	$ 166,953,055	$ 127,648,351
$ per line per month		$0.44	$0.72	$1.03	$1.19	$1.30	$1.29	$1.29	$1.23	$1.14	$0.93
%		97.59%	95.57%	92.94%	91.00%	89.52%	88.63%	87.91%	88.59%	88.48%	88.89%
New Mechanism adjusted for Budget Variance		$ 190,083,675	$ 361,798,974	$ 514,924,754	$ 646,857,985	$ 766,504,029	$ 877,260,348	$ 984,163,415	$ 1,081,740,801	$ 1,177,939,386	$ 1,271,359,424
$ per line per month		$0.13	$0.43	$0.98	$1.61	$2.21	$2.76	$3.28	$3.45	$3.78	$3.93
%		97.56%	95.53%	92.93%	90.95%	89.46%	88.56%	87.88%	88.49%	88.35%	88.74%
Total RLEC High Cost Support Budget Adjusted for Budget Overage		**$ 1,625,000,000**	**$ 1,625,000,000**	**$ 1,625,000,000**	**$ 1,625,000,000**	**$ 1,625,000,000**	**$ 1,625,000,000**	**$ 1,625,000,000**	**$ 1,625,000,000**	**$ 1,625,000,000**	**$ 1,625,000,000**

FCC Bifurcated Mechanism - Preliminary Modeling
Scenario 1: Growth factors stratified by depreciation levels; Benchmark = $45

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Subject to Change Based on Further Analysis

Impacts Compared to Legacy Support

	All Study Areas						Study Areas Losing Support						Study Areas Gaining Support					
	Count	Loops	2015 Legacy Support	2025 Bifurcated Support	$ Change	% Change	Count	Loops	% Loss of Support	SARs Losing More Than 50% Support	Average Loss per Loop per Month	Max Loss per Loop per Month	Count	Loops	% Gain of Support	SARs Gaining More Than 50% Support	Average Gain per Loop per Month	Max Gain per Loop per Month
All Study Areas	1095	3,761,691	$1,673.6 M	$1,625.0 M	-$48.6 M	-2.9%	590	2,077,934	-33.3%	142	$14	$132	505	1,683,757	52.1%	232	$15	$90
Groups By Loop Count																		
0 - 500	172	49,716	$43.8 M	$37.5 M	-$6.3 M	-14.4%	110	29,185	-28.6%	8	$27	$132	62	20,531	31.2%	15	$13	$90
501 - 1000	203	146,443	$120.9 M	$109.0 M	-$11.8 M	-9.8%	111	81,313	-28.7%	21	$26	$103	92	65,130	42.8%	33	$18	$70
1001 - 2500	303	482,607	$307.9 M	$301.6 M	-$6.3 M	-2.0%	154	237,354	-29.3%	37	$20	$121	149	245,253	47.4%	72	$18	$82
2501 - 5000	210	746,477	$419.5 M	$401.9 M	-$17.6 M	-4.2%	101	361,669	-33.2%	32	$21	$123	109	384,808	49.0%	57	$16	$64
5001 - 10000	130	906,786	$383.6 M	$385.2 M	$1.6 M	0.4%	69	493,404	-34.8%	26	$15	$74	61	413,382	67.1%	40	$18	$58
10001 - 20000	56	759,754	$261.7 M	$253.9 M	-$7.7 M	-3.0%	31	420,507	-37.8%	11	$11	$29	25	339,247	43.8%	10	$12	$45
> 20000	21	669,908	$136.2 M	$135.7 M	-$.5 M	-0.4%	14	454,502	-37.2%	7	$6	$26	7	215,406	60.7%	5	$12	$30
Groups By CPL Percentile																		
10%: $0 - $542	110	631,777	$66.3 M	$66.1 M	-$.2 M	-0.3%	47	418,125	-55.7%	32	$5	$17	63	213,652	122.9%	49	$10	$41
25%: $542 - $656	164	798,336	$120.4 M	$129.1 M	$8.7 M	7.2%	95	479,123	-55.4%	55	$7	$17	69	319,213	110.3%	49	$13	$58
50%: $656 - $886	274	843,870	$215.3 M	$275.8 M	$60.5 M	28.1%	103	339,147	-35.5%	24	$8	$67	171	504,723	77.6%	71	$16	$70
75%: $886 - $1,351	274	934,783	$507.8 M	$532.3 M	$24.5 M	4.8%	138	424,835	-33.4%	20	$16	$114	136	509,948	41.1%	50	$18	$90
90%: $1,351 - $2,115	163	421,545	$458.9 M	$395.3 M	-$63.6 M	-13.9%	105	292,282	-29.8%	9	$27	$84	58	129,263	24.4%	13	$21	$90
95%: $2,115 - $2,898	55	69,456	$133.9 M	$106.1 M	-$27.7 M	-20.7%	47	62,498	-23.6%	2	$38	$123	8	6,958	6.2%	0	$10	$24
>95% > $2,898	55	61,924	$171.0 M	$120.2 M	-$50.8 M	-29.7%	55	61,924	-29.7%	0	$68	$132	0	-	0.0%	0	$0	$0
Groups By Settlement Type																		
A/S	310	701,082	$128.3 M	$80.7 M	-$47.6 M	-37.1%	204	570,505	-56.1%	74	$8	$114	106	130,577	15.4%	4	$3	$22
Cost	785	3,060,609	$1,545.3 M	$1,544.3 M	-$1.0 M	-0.1%	386	1,507,429	-31.1%	68	$17	$132	399	1,553,180	54.3%	228	$16	$90
Groups By Density																		
Less than 1	70	144,009	$184.4 M	$175.5 M	-$8.9 M	-4.8%	39	61,185	-24.2%	2	$39	$114	31	82,824	30.1%	11	$20	$90
1 - 3	146	439,143	$371.8 M	$339.4 M	-$32.3 M	-8.7%	83	245,094	-28.1%	4	$24	$98	63	194,049	33.0%	20	$17	$90
3 - 10	321	644,747	$369.7 M	$373.4 M	$3.7 M	1.0%	166	276,260	-30.6%	15	$21	$132	155	368,487	52.1%	66	$17	$82
10 - 20	242	696,700	$281.0 M	$286.7 M	$5.7 M	2.0%	118	342,712	-33.7%	31	$14	$89	124	353,988	59.4%	57	$15	$67
20 - 50	227	1,234,490	$341.5 M	$332.0 M	-$9.5 M	-2.8%	121	688,982	-40.4%	50	$11	$69	106	545,508	64.5%	61	$12	$51
More than 50	89	602,602	$125.1 M	$117.9 M	-$7.2 M	-5.8%	63	463,701	-49.1%	40	$8	$98	26	138,901	87.9%	17	$21	$70
Groups by ACAM 10/1 Deployment																		
0% Deployed	70	70,040	$55.87 M	$62.15 M	$6.3 M	11%	31	23,286	-30%	5	$27	$132	39	46,754	45%	17	$25	$90
1% to 25%	242	625,048	$259.64 M	$312.16 M	$52.5 M	20%	98	222,152	-33%	21	$15	$121	144	402,896	67%	76	$19	$82
25% to 50%	104	385,633	$179.0 M	$161.5 M	-$17.4 M	-9.7%	50	205,922	-33.9%	13	$18	$98	54	179,711	56.0%	27	$13	$47
50% to 75%	135	535,178	$210.8 M	$216.4 M	$5.6 M	2.7%	62	284,388	-30.6%	20	$13	$114	73	250,790	68.6%	40	$16	$90
75% to 99%	386	1,553,804	$682.2 M	$653.4 M	-$28.8 M	-4.2%	238	886,890	-31.9%	51	$13	$86	148	666,914	44.0%	56	$14	$67
100% Deployed	158	591,988	$286.1 M	$219.4 M	-$66.8 M	-23.3%	111	455,296	-37.5%	32	$16	$123	47	136,692	31.2%	16	$11	$45
Groups By Census Region																		
Northeast	81	246,559	$39.8 M	$47.4 M	$7.6 M	19.2%	37	128,000	-40.6%	15	$5	$114	44	118,559	81.8%	28	$11	$35
Midwest	572	1,312,634	$652.7 M	$559.4 M	-$93.3 M	-14.3%	350	812,567	-34.5%	82	$17	$123	222	500,067	43.2%	75	$12	$67
South	263	1,643,641	$577.5 M	$622.4 M	$44.9 M	7.8%	108	889,272	-36.1%	34	$11	$132	155	754,369	64.4%	94	$18	$90
West	179	558,857	$403.7 M	$395.8 M	-$7.9 M	-2.0%	95	248,095	-26.7%	11	$22	$98	84	310,762	38.0%	35	$16	$90

Note: Northeast: ME, NH, VT, MA, RI, CT, NY, PA, NJ; Midwest: WI, MI, IL, IN, OH, MO, ND, SD, NE, KS, MN, IA; South: DE, MD, DC, VA, WV, NC, SC, GA, FL, KY, TN, MS, AL, OK, TX, AR, LA; West: ID, MT, WY, NV, UT, CO, AZ, NM, AK, WA, OR, CA, HI, GU, AS

FCC Bifurcated Mechanism - Preliminary Modeling

Scenario 2: Growth equals depreciation expense in new and old; Benchmark = $45

Work in Progress Draft for Discussion Only

Subject to Change Based on Further Analysis

	Base Year 2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Legacy Support Mechanisms -Existing Investment											
High Cost Loop Support Cap	$ 735,165,218	$ 718,696,728	$ 700,566,166	$ 682,892,983	$ 665,665,642	$ 648,872,895	$ 632,503,778	$ 616,547,605	$ 600,993,959	$ 585,832,684	$ 571,053,883
High Cost Loop Support with Frozen NACPL after Adjustment Factor	$ 732,584,114	$ 709,648,515	$ 671,176,734	$ 650,300,251	$ 624,815,018	$ 582,802,058	$ 529,710,400	$ 473,279,799	$ 410,027,842	$ 348,418,284	$ 279,573,508
Adjustment Factor		0.90	0.86	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ICLS	940,244,722	780,299,722	667,536,995	561,067,466	462,575,227	375,174,460	298,566,653	233,891,658	175,217,483	133,443,637	99,783,003
New Mechanism Support											
Percent of Revenue Requirement Assigned to New Mechanism		17.76%	30.14%	41.33%	51.32%	60.03%	67.76%	74.34%	80.34%	84.70%	88.34%
Loop Cost Assigned to New Mechanism		$ 675,734,636	$ 1,174,070,274	$ 1,639,293,354	$ 2,057,209,153	$ 2,423,810,958	$ 2,742,228,563	$ 3,015,137,464	$ 3,233,208,760	$ 3,414,938,020	$ 3,568,472,377
Benchmark Revenue		$ 432,677,493	$ 679,688,244	$ 889,751,727	$ 1,070,570,091	$ 1,221,405,484	$ 1,350,883,974	$ 1,456,363,559	$ 1,553,456,718	$ 1,618,369,244	$ 1,673,278,396
New Mechanism Support		$ 241,152,643	$ 489,359,491	$ 739,450,119	$ 969,225,480	$ 1,175,023,094	$ 1,352,024,300	$ 1,507,909,103	$ 1,615,991,943	$ 1,720,926,356	$ 1,807,425,414
Total Loop "Old" Investment High Cost Support	$ 1,672,828,836	$ 1,489,948,237	$ 1,338,713,729	$ 1,211,367,717	$ 1,087,390,245	$ 957,976,518	$ 828,277,053	$ 707,171,457	$ 585,245,325	$ 481,861,921	$ 379,356,511
Total Loop High Cost Support Old plus New	$ 1,672,828,836	$ 1,731,100,880	$ 1,828,073,220	$ 1,950,817,836	$ 2,056,615,725	$ 2,132,999,612	$ 2,180,301,353	$ 2,215,080,560	$ 2,201,237,268	$ 2,202,788,277	$ 2,186,781,925
Total RLEC High Cost Support Budget		**$1,625,000,000**	**$1,625,000,000**	**$1,625,000,000**	**$1,625,000,000**	**$1,625,000,000**	**$1,625,000,000**	**$1,625,000,000**	**$1,625,000,000**	**$1,625,000,000**	**$1,625,000,000**
Budget Variance		$106,100,880	$203,073,220	$325,817,836	$431,615,725	$507,999,612	$555,301,353	$590,080,560	$576,237,268	$577,788,277	$561,781,925
Budget Variance per Line per Month		$2.37	$4.67	$7.66	$10.33	$12.33	$13.61	$14.54	$14.24	$14.26	$13.82
HCLS adjusted for Budget Variance		$ 666,153,457	$ 596,618,440	$ 541,689,689	$ 493,686,979	$ 444,000,711	$ 394,798,360	$ 347,201,672	$ 302,691,242	$ 257,028,656	$ 207,751,374
$ per line per month		$0.85	$1.50	$2.20	$2.61	$2.79	$2.78	$2.60	$2.34	$2.22	$2.06
%		96.80%	93.98%	90.61%	87.86%	85.90%	84.60%	83.11%	83.14%	83.23%	83.25%
ICLS adjusted for Budget Variance		$ 732,474,383	$ 593,383,024	$ 467,360,210	$ 365,495,962	$ 285,822,132	$ 222,524,657	$ 171,584,705	$ 129,349,259	$ 98,441,558	$ 74,148,857
$ per line per month		$0.56	$0.90	$1.19	$1.31	$1.35	$1.24	$1.16	$1.03	$0.92	$0.73
%		96.84%	94.10%	90.81%	88.15%	86.35%	85.06%	84.33%	84.57%	84.69%	85.17%
New Mechanism adjusted for Budget Variance		$ 226,372,160	$ 434,998,536	$ 615,950,101	$ 765,817,059	$ 895,177,157	$ 1,007,676,982	$ 1,106,213,623	$ 1,192,959,498	$ 1,269,529,786	$ 1,343,099,769
$ per line per month		$0.21	$0.70	$1.54	$2.58	$3.63	$4.47	$5.25	$5.52	$5.89	$6.01
%		96.80%	94.00%	90.65%	87.90%	86.15%	84.98%	84.21%	84.50%	84.49%	84.86%
Total RLEC High Cost Support Budget Adjusted for Budget Overage		**$ 1,625,000,000**	**$ 1,625,000,000**	**$ 1,625,000,000**	**$ 1,625,000,000**	**$ 1,625,000,000**	**$ 1,625,000,000**	**$ 1,625,000,000**	**$ 1,625,000,000**	**$ 1,625,000,000**	**$ 1,625,000,000**

FCC Bifurcated Mechanism - Preliminary Modeling

Scenario 2: Growth equals depreciation expense in new and old; Benchmark = $45

Work in Progress Draft for Discussion Only

Subject to Change Based on Further Analysis

Impacts Compared to Legacy Support

	All Study Areas						Study Areas Losing Support						Study Areas Gaining Support					
	Count	Loops	2015 Legacy Support	2025 Bifurcated Support	$ Change	% Change	Count	Loops	% Loss of Support	SARs Losing More Than 50% Support	Average Loss per Loop per Month	Max Loss per Loop per Month	Count	Loops	% Gain of Support	SARs Gaining More Than 50% Support	Average Gain per Loop per Month	Max Gain per Loop per Month
All Study Areas	1095	3,761,691	$1,673.6 M	$1,625.0 M	-$48.6 M	-2.9%	598	2,162,078	-29.3%	176	$9	$140	497	1,599,613	22.9%	62	$10	$46
Groups By Loop Count																		
0 - 500	172	49,716	$43.8 M	$38.1 M	-$5.7 M	-12.9%	102	26,604	-23.7%	8	$23	$140	70	23,112	13.7%	3	$6	$32
501 - 1000	203	146,443	$120.9 M	$110.1 M	-$10.7 M	-8.9%	110	80,841	-23.0%	19	$19	$106	93	65,602	19.0%	13	$10	$46
1001 - 2500	303	482,607	$307.9 M	$296.3 M	-$11.6 M	-3.8%	171	272,884	-22.2%	51	$12	$115	132	209,723	20.0%	12	$11	$46
2501 - 5000	210	746,477	$419.5 M	$412.3 M	-$7.2 M	-1.7%	103	368,244	-27.3%	40	$13	$94	107	378,233	23.1%	20	$11	$42
5001 - 10000	130	906,786	$383.6 M	$394.0 M	$10.3 M	2.7%	67	465,921	-35.4%	37	$9	$83	63	440,865	24.8%	12	$11	$35
10001 - 20000	56	759,754	$261.7 M	$274.1 M	$12.5 M	4.8%	29	401,709	-28.3%	13	$6	$12	27	358,045	25.5%	1	$10	$30
> 20000	21	669,908	$136.2 M	$100.0 M	-$36.3 M	-26.6%	16	545,875	-45.6%	8	$7	$12	5	124,033	16.0%	1	$5	$12
Groups By CPL Percentile																		
10%: $0 - $542	110	631,777	$66.3 M	$9.4 M	-$57.0 M	-85.9%	105	613,886	-92.0%	95	$8	$17	5	17,891	32.3%	2	$5	$11
25%: $542 - $656	164	798,336	$120.4 M	$74.6 M	-$45.8 M	-38.1%	138	686,056	-50.6%	67	$6	$19	26	112,280	42.3%	8	$5	$27
50%: $656 - $886	274	843,870	$215.3 M	$229.0 M	$13.7 M	6.4%	99	343,662	-27.6%	11	$7	$113	175	500,208	34.4%	27	$7	$46
75%: $886 - $1,351	274	934,783	$507.8 M	$568.4 M	$60.6 M	11.9%	107	299,925	-15.1%	3	$7	$115	167	634,858	25.5%	21	$11	$46
90%: $1,351 - $2,115	163	421,545	$458.9 M	$497.6 M	$38.7 M	8.4%	60	115,649	-11.3%	0	$11	$74	103	305,896	16.8%	4	$15	$44
95%: $2,115 - $2,898	55	69,456	$133.9 M	$128.3 M	-$5.6 M	-4.2%	34	40,976	-11.7%	0	$20	$79	21	28,480	8.9%	0	$13	$27
>95% > $2,898	55	61,924	$171.0 M	$117.7 M	-$53.3 M	-31.2%	55	61,924	-31.2%	0	$72	$140	0	-	0.0%	0	$0	$0
Groups By Settlement Type																		
A/S	310	701,082	$128.3 M	$91.5 M	-$36.8 M	-28.7%	177	541,864	-52.3%	54	$7	$115	133	159,218	21.8%	6	$5	$25
Cost	785	3,060,609	$1,545.3 M	$1,533.5 M	-$11.8 M	-0.8%	421	1,620,214	-26.5%	122	$10	$140	364	1,440,395	22.9%	56	$11	$46
Groups By Density																		
Less than 1	70	144,009	$184.4 M	$183.0 M	-$1.4 M	-0.8%	42	53,364	-21.7%	3	$36	$115	28	90,645	28.1%	6	$20	$46
1 - 3	146	439,143	$371.8 M	$380.1 M	$8.4 M	2.2%	74	135,531	-19.4%	4	$20	$105	72	303,612	19.7%	8	$11	$36
3 - 10	321	644,747	$369.7 M	$389.8 M	$20.1 M	5.4%	145	244,640	-22.0%	21	$12	$140	176	400,107	26.8%	23	$12	$44
10 - 20	242	696,700	$281.0 M	$293.2 M	$12.2 M	4.3%	119	315,070	-28.9%	42	$7	$98	123	381,630	21.1%	8	$9	$46
20 - 50	227	1,234,490	$341.5 M	$281.6 M	-$60.0 M	-17.6%	158	944,776	-35.9%	71	$7	$76	69	289,714	15.9%	8	$6	$27
More than 50	89	602,602	$125.1 M	$97.2 M	-$27.9 M	-22.3%	60	468,697	-57.1%	35	$8	$106	29	133,905	35.4%	9	$10	$34
Groups by ACAM 10/1 Deployment																		
0% Deployed	70	70,040	$55.87 M	$55.66 M	-$.2 M	0%	39	33,625	-24%	7	$19	$140	31	36,415	29%	6	$17	$46
1% to 25%	242	625,048	$259.64 M	$267.81 M	$8.2 M	3%	136	316,827	-30%	42	$9	$115	106	308,221	30%	20	$12	$36
25% to 50%	104	385,633	$179.0 M	$159.0 M	-$20.0 M	-11.2%	69	278,952	-33.9%	32	$10	$106	35	106,681	15.6%	3	$10	$31
50% to 75%	135	535,178	$210.8 M	$198.9 M	-$11.9 M	-5.6%	71	315,989	-33.4%	33	$9	$115	64	219,189	23.3%	8	$9	$27
75% to 99%	386	1,553,804	$682.2 M	$651.2 M	-$31.1 M	-4.6%	211	925,479	-26.7%	44	$9	$96	175	628,325	20.4%	18	$9	$46
100% Deployed	158	591,988	$286.1 M	$292.5 M	$6.4 M	2.2%	72	291,206	-30.0%	18	$10	$117	86	300,782	23.7%	7	$11	$44
Groups By Census Region																		
Northeast	81	246,559	$39.8 M	$25.1 M	-$14.6 M	-36.8%	61	193,941	-61.4%	36	$7	$115	20	52,618	23.2%	3	$4	$16
Midwest	572	1,312,634	$652.7 M	$667.4 M	$14.7 M	2.3%	291	577,023	-27.6%	72	$10	$117	281	735,611	22.0%	26	$10	$46
South	263	1,643,641	$577.5 M	$544.1 M	-$33.4 M	-5.8%	139	1,072,512	-31.5%	51	$8	$140	124	571,129	23.9%	22	$9	$31
West	179	558,857	$403.7 M	$388.4 M	-$15.3 M	-3.8%	107	318,602	-24.1%	17	$15	$105	72	240,255	23.1%	11	$14	$46

Note: Northeast: ME, NH, VT, MA, RI, CT, NY, PA, NJ; Midwest: WI, MI, IL, IN, OH, MO, ND, SD, NE, KS, MN, IA; South: DE, MD, DC, VA, WV, NC, SC, GA, FL, KY, TN, MS, AL, OK, TX, AR, LA; West: ID, MT, WY, NV, UT, CO, AZ, NM, AK, WA, OR, CA, HI, GU, AS

FCC Bifurcated Mechanism - Preliminary Modeling

Scenario 3: Growth equals depreciation expense in new and old, grown by 20%; Benchmark = $45

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Subject to Change Based on Further Analysis

	Base Year 2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Legacy Support Mechanisms -Existing Investment											
High Cost Loop Support Cap	$ 735,165,218	$ 718,696,728	$ 700,566,166	$ 682,892,983	$ 665,665,642	$ 648,872,895	$ 632,503,778	$ 616,547,605	$ 600,993,959	$ 585,832,684	$ 571,053,883
High Cost Loop Support with Frozen NACPL after Adjustment Factor	$ 732,584,114	$ 709,137,921	$ 670,012,503	$ 648,485,949	$ 623,259,674	$ 580,627,032	$ 527,515,803	$ 471,436,366	$ 408,021,196	$ 346,831,145	$ 277,010,817
Adjustment Factor		0.90	0.86	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ICLS	940,244,722	761,646,608	639,058,310	528,605,744	429,766,784	344,253,971	271,120,628	210,504,975	155,893,571	117,704,806	87,199,025
New Mechanism Support											
Percent of Revenue Requirement Assigned to New Mechanism		19.71%	33.04%	44.58%	54.58%	63.09%	70.50%	76.68%	82.31%	86.32%	89.63%
Loop Cost Assigned to New Mechanism		$ 757,063,667	$ 1,310,298,186	$ 1,814,424,130	$ 2,262,361,670	$ 2,654,376,129	$ 2,995,608,714	$ 3,290,104,602	$ 3,532,368,574	$ 3,738,054,212	$ 3,916,698,768
Benchmark Revenue		$ 473,572,411	$ 736,307,774	$ 949,336,877	$ 1,127,539,805	$ 1,273,597,110	$ 1,395,226,909	$ 1,493,219,076	$ 1,583,261,228	$ 1,643,045,875	$ 1,693,486,707
New Mechanism Support		$ 281,170,209	$ 567,665,063	$ 852,163,315	$ 1,112,166,403	$ 1,344,930,787	$ 1,549,549,519	$ 1,730,636,718	$ 1,865,544,539	$ 1,994,770,211	$ 2,105,386,749
Total Loop "Old" Investment High Cost Support	$ 1,672,828,836	$ 1,470,784,529	$ 1,309,070,813	$ 1,177,091,693	$ 1,053,026,458	$ 924,881,003	$ 798,636,431	$ 681,941,341	$ 563,914,767	$ 464,535,951	$ 364,209,842
Total Loop High Cost Support Old plus New	$ 1,672,828,836	$ 1,751,954,738	$ 1,876,735,876	$ 2,029,255,008	$ 2,165,192,861	$ 2,269,811,790	$ 2,348,185,950	$ 2,412,578,059	$ 2,429,459,306	$ 2,459,306,162	$ 2,469,596,591
Total RLEC High Cost Support Budget		**$1,625,000,000**	**$1,625,000,000**	**$1,625,000,000**	**$1,625,000,000**	**$1,625,000,000**	**$1,625,000,000**	**$1,625,000,000**	**$1,625,000,000**	**$1,625,000,000**	**$1,625,000,000**
Budget Variance		$126,954,738	$251,735,876	$404,255,008	$540,192,861	$644,811,790	$723,185,950	$787,578,059	$804,459,306	$834,306,162	$844,596,591
Budget Variance per Line per Month		$2.84	$5.78	$9.50	$12.93	$15.65	$17.72	$19.41	$19.87	$20.60	$20.78
HCLS adjusted for Budget Variance		$ 657,750,509	$ 580,140,409	$ 519,298,788	$ 467,762,936	$ 415,681,569	$ 365,053,364	$ 317,537,537	$ 272,914,406	$ 229,170,576	$ 182,273,728
$ per line per month		$1.00	$1.81	$2.59	$3.04	$3.17	$3.13	$3.01	$2.74	$2.77	$2.66
%		96.19%	92.61%	88.52%	85.08%	82.32%	80.17%	78.30%	77.42%	77.34%	76.72%
ICLS adjusted for Budget Variance		$ 706,454,174	$ 553,338,254	$ 423,300,339	$ 322,544,489	$ 246,457,749	$ 187,621,862	$ 141,786,328	$ 104,273,018	$ 77,774,095	$ 57,377,151
$ per line per month		$0.65	$1.04	$1.34	$1.45	$1.48	$1.37	$1.28	$1.16	$1.05	$0.85
%		96.24%	92.79%	88.84%	85.56%	83.24%	81.32%	80.02%	79.62%	79.25%	79.15%
New Mechanism adjusted for Budget Variance		$ 260,795,316	$ 491,521,337	$ 682,400,872	$ 834,692,575	$ 962,860,682	$ 1,072,324,774	$ 1,165,676,135	$ 1,247,812,577	$ 1,318,055,329	$ 1,385,349,121
$ per line per month		$0.28	$0.96	$2.10	$3.48	$4.87	$6.07	$7.19	$7.86	$8.59	$9.08
%		96.19%	92.68%	88.68%	85.39%	83.02%	81.23%	79.85%	79.54%	78.94%	78.75%
Total RLEC High Cost Support Budget Adjusted for Budget Overage		**$ 1,625,000,000**	**$ 1,625,000,000**	**$ 1,625,000,000**	**$ 1,625,000,000**	**$ 1,625,000,000**	**$ 1,625,000,000**	**$ 1,625,000,000**	**$ 1,625,000,000**	**$ 1,625,000,000**	**$ 1,625,000,000**

FCC Bifurcated Mechanism - Preliminary Modeling

Scenario 3: Growth equals depreciation expense in new and old, grown by 20%; Benchmark = $45

Work in Progress Draft for Discussion Only

Subject to Change Based on Further Analysis

Impacts Compared to Legacy Support

	All Study Areas						Study Areas Losing Support						Study Areas Gaining Support					
	Count	Loops	2015 Legacy Support	2025 Bifurcated Support	$ Change	% Change	Count	Loops	% Loss of Support	SARs Losing More Than 50% Support	Average Loss per Loop per Month	Max Loss per Loop per Month	Count	Loops	% Gain of Support	SARs Gaining More Than 50% Support	Average Gain per Loop per Month	Max Gain per Loop per Month
All Study Areas	1095	3,761,691	$1,673.6 M	$1,625.0 M	-$48.6 M	-2.9%	608	2,070,460	-30.5%	174	$10	$179	487	1,691,231	23.0%	61	$10	$47
Groups By Loop Count																		
0 - 500	172	49,716	$43.8 M	$36.5 M	-$7.3 M	-16.6%	105	27,693	-26.8%	10	$27	$179	67	22,023	15.1%	3	$6	$23
501 - 1000	203	146,443	$120.9 M	$105.8 M	-$15.1 M	-12.5%	115	84,609	-25.1%	18	$21	$120	88	61,834	18.9%	13	$9	$41
1001 - 2500	303	482,607	$307.9 M	$287.7 M	-$20.2 M	-6.5%	179	283,036	-23.3%	49	$13	$120	124	199,571	20.6%	12	$10	$47
2501 - 5000	210	746,477	$419.5 M	$407.9 M	-$11.6 M	-2.8%	103	367,808	-29.6%	40	$14	$109	107	378,669	23.0%	19	$11	$40
5001 - 10000	130	906,786	$383.6 M	$395.5 M	$11.9 M	3.1%	66	457,310	-36.1%	38	$9	$96	64	449,476	25.4%	11	$12	$37
10001 - 20000	56	759,754	$261.7 M	$283.8 M	$22.2 M	8.5%	26	365,741	-29.8%	11	$6	$12	30	394,013	25.8%	2	$10	$34
> 20000	21	669,908	$136.2 M	$107.7 M	-$28.5 M	-20.9%	14	484,263	-48.8%	8	$6	$11	7	185,645	13.8%	1	$4	$12
Groups By CPL Percentile																		
10%: $0 - $542	110	631,777	$66.3 M	$9.1 M	-$57.3 M	-86.3%	106	616,604	-91.7%	98	$8	$17	4	15,173	27.7%	1	$5	$9
25%: $542 - $656	164	798,336	$120.4 M	$77.4 M	-$43.0 M	-35.7%	139	692,244	-47.1%	62	$6	$19	25	106,092	40.6%	7	$5	$25
50%: $656 - $886	274	843,870	$215.3 M	$236.2 M	$20.9 M	9.7%	92	289,228	-26.1%	10	$6	$179	182	554,642	33.6%	29	$7	$40
75%: $886 - $1,351	274	934,783	$507.8 M	$576.6 M	$68.8 M	13.5%	107	242,824	-15.2%	3	$7	$117	167	691,959	24.8%	20	$11	$41
90%: $1,351 - $2,115	163	421,545	$458.9 M	$499.0 M	$40.2 M	8.8%	66	115,979	-11.1%	0	$11	$78	97	305,566	17.3%	4	$15	$47
95%: $2,115 - $2,898	55	69,456	$133.9 M	$119.2 M	-$14.7 M	-11.0%	43	51,657	-15.9%	0	$27	$94	12	17,799	6.8%	0	$9	$25
>95% > $2,898	55	61,924	$171.0 M	$107.6 M	-$63.4 M	-37.1%	55	61,924	-37.1%	1	$85	$152	0	-	0.0%	0	$0	$0
Groups By Settlement Type																		
A/S	310	701,082	$128.3 M	$94.4 M	-$34.0 M	-26.5%	173	535,528	-50.8%	48	$7	$117	137	165,554	23.2%	8	$5	$25
Cost	785	3,060,609	$1,545.3 M	$1,530.6 M	-$14.6 M	-0.9%	435	1,534,932	-28.0%	126	$11	$179	350	1,525,677	23.0%	53	$10	$47
Groups By Density																		
Less than 1	70	144,009	$184.4 M	$176.5 M	-$8.0 M	-4.3%	42	54,381	-27.6%	4	$45	$117	28	89,628	27.8%	7	$20	$40
1 - 3	146	439,143	$371.8 M	$377.6 M	$5.8 M	1.6%	78	119,305	-22.6%	4	$25	$117	68	319,838	20.0%	8	$11	$40
3 - 10	321	644,747	$369.7 M	$385.8 M	$16.0 M	4.3%	152	250,623	-23.3%	21	$13	$179	169	394,124	28.6%	23	$12	$47
10 - 20	242	696,700	$281.0 M	$293.8 M	$12.7 M	4.5%	125	318,596	-27.9%	44	$7	$112	117	378,104	21.9%	10	$9	$41
20 - 50	227	1,234,490	$341.5 M	$290.5 M	-$51.0 M	-14.9%	154	879,285	-36.4%	69	$7	$89	73	355,205	15.8%	5	$5	$27
More than 50	89	602,602	$125.1 M	$100.9 M	-$24.2 M	-19.4%	57	448,270	-56.7%	32	$8	$120	32	154,332	30.4%	8	$9	$35
Groups by ACAM 10/1 Deployment																		
0% Deployed	70	70,040	$55.87 M	$53.29 M	-$2.6 M	-5%	41	38,935	-25%	8	$19	$152	29	31,105	31%	6	$17	$40
1% to 25%	242	625,048	$259.64 M	$265.35 M	$5.7 M	2%	139	311,306	-31%	43	$10	$120	103	313,742	30%	16	$11	$37
25% to 50%	104	385,633	$179.0 M	$157.2 M	-$21.8 M	-12.2%	71	281,535	-34.1%	34	$10	$120	33	104,098	16.8%	3	$10	$30
50% to 75%	135	535,178	$210.8 M	$196.1 M	-$14.6 M	-6.9%	71	294,371	-39.5%	33	$11	$117	64	240,807	20.2%	8	$8	$29
75% to 99%	386	1,553,804	$682.2 M	$659.3 M	-$23.0 M	-3.4%	212	846,789	-27.4%	41	$9	$111	174	707,015	20.4%	18	$8	$41
100% Deployed	158	591,988	$286.1 M	$293.8 M	$7.6 M	2.7%	74	297,524	-30.1%	15	$10	$179	84	294,464	26.6%	10	$12	$47
Groups By Census Region																		
Northeast	81	246,559	$39.8 M	$24.9 M	-$14.8 M	-37.3%	63	198,084	-59.3%	40	$7	$117	18	48,475	24.4%	3	$4	$14
Midwest	572	1,312,634	$652.7 M	$669.7 M	$17.0 M	2.6%	295	568,822	-28.4%	68	$11	$179	277	743,812	23.8%	27	$10	$47
South	263	1,643,641	$577.5 M	$548.7 M	-$28.8 M	-5.0%	139	1,000,276	-33.0%	50	$8	$152	124	643,365	22.4%	20	$8	$30
West	179	558,857	$403.7 M	$381.7 M	-$22.0 M	-5.5%	111	303,278	-26.1%	16	$17	$117	68	255,579	22.3%	11	$13	$40

Note: Northeast: ME, NH, VT, MA, RI, CT, NY, PA, NJ; Midwest: WI, MI, IL, IN, OH, MO, ND, SD, NE, KS, MN, IA; South: DE, MD, DC, VA, WV, NC, SC, GA, FL, KY, TN, MS, AL, OK, TX, AR, LA; West: ID, MT, WY, NV, UT, CO, AZ, NM, AK, WA, OR, CA, HI, GU, AS