

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

In the Matter of	)	
	)	
Connect America Fund	)	WC Docket No. 10-90
	)	
High-Cost Universal Service Support	)	WC Docket No. 05-337

**COMMENTS OF ALASKA COMMUNICATIONS SYSTEMS GROUP, INC.**

Alaska Communications Systems Group, Inc., on behalf of its operating subsidiaries (ACS),<sup>1</sup> submits these comments in response to the Commission’s *Request for Connect America Fund Cost Models* in the above-captioned dockets.<sup>2</sup>

**I. INTRODUCTION**

In the *Cost Model Public Notice*, the Commission’s Wireline Competition Bureau invites both models and comments that will assist the Bureau in estimating the costs of deploying and operating broadband-capable networks in high-cost areas, identifying areas served by price cap local exchange carriers (LECs) that should be eligible for Connect America Fund (CAF) support, and identifying extremely high-cost areas that should be eligible for support from the Remote Areas Fund (RAF).

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<sup>1</sup> In these proceedings, Alaska Communications Systems Group, Inc. represents four local exchange carriers, ACS of Alaska, Inc., ACS of Anchorage, Inc., ACS of Fairbanks, Inc., and ACS of the Northland, Inc. (the ACS LECs), as well as ACS Long Distance, Inc., ACS Internet, Inc., ACS Cable, Inc., and ACS Wireless, Inc. Together, these companies provide wireline and wireless telecommunications, information, broadband, and other network services to residential, small business and enterprise customers in the State of Alaska and beyond, on a retail and wholesale basis, using ACS’s statewide and interstate facilities.

<sup>2</sup> *Request for Connect America Fund Cost Models*, FCC Public Notice in WC Dockets 10-90, 05-337, DA 11-2026 (Wireline Competition Bur. rel. Dec. 15, 2011) (the *Cost Model Public Notice*).

ACS has been an active participant in each stage of these proceedings. ACS is filing under separate cover a cost model, developed with the assistance of Parrish, Blessing and Associates, Inc., that is designed to provide critical information about the cost of deploying and operating broadband-capable networks in Alaska. Until now this granular cost detail has not been available to the Commission. Because access to ACS's modeling will be restricted due to the highly confidential nature of the information contained in that filing, these comments offer a high-level summary of certain key issues for the Commission that ACS has identified in its modeling effort.

## **II. DISCUSSION**

*Ensuring Sufficient Support By Accurately Modeling Costs.* In the *USF/ICC Transformation Order*, the Commission instructed the Bureau to estimate the forward-looking costs of providing fixed broadband and voice services in high-cost areas at a granular level, so that CAF support for areas served by price cap LECs will be sufficient, as required by the Communications Act.<sup>3</sup> The Bureau was instructed to ensure that the model would accurately estimate the costs of an efficient wireline-based provider of fixed voice and broadband services in all areas of the country, including Alaska.<sup>4</sup> Indeed, if the Bureau finds that a model it adopts for the country as a whole cannot accurately predict the costs of serving remote and insular areas such as Alaska, and thus ensure that sufficient support will be provided, the Bureau has authority to exempt such areas from the model-based Phase II CAF mechanism, and maintain Phase I CAF support levels.<sup>5</sup>

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<sup>3</sup> *Connect America Fund et al.*, Report and Order and Further Notice of Proposed Rulemaking in WC Docket No. 10-90 *et al.*, FCC 11-161 (rel. Nov. 18, 2011), paras. 184, 186-187 (*USF/ICC Transformation Order*); 47 U.S.C. §254(b)(5).

<sup>4</sup> *USF/ICC Transformation Order* at para. 188.

<sup>5</sup> *Id.* para. 193.

Any model the Bureau adopts thus must accurately reflect Alaska-specific costs or may not be used to generate support levels for Alaska LECs.

The Commission seeks network cost information between the customer premises and the nearest Internet peering or access point (IAP). One party, the ABC Coalition, submitted a model that attempted to comprehensively model these costs. The Commission declined to adopt that model (CQBAT) and made a commitment to “accurately estimate the cost of a modern voice and broadband capable network.”<sup>6</sup> This model should accurately estimate the costs of deploying and operating a wireline network in particular,<sup>7</sup> and estimate them “at a granular level – the census block or smaller – in all areas of the country.”<sup>8</sup> Encouraged by the Commission’s pledge to accurately model costs for Alaska as well as the rest of the nation, and set support levels accordingly, ACS has devoted substantial resources to providing input into this process.

*Modeling Alaska-Specific Costs.* As many parties in these proceedings have observed, deploying, maintaining and operating voice and broadband-capable networks in Alaska presents unique challenges. Forces outside the control of operators include the extraordinarily large land mass that must be traversed both within the state and between the state and rest of the nation, the dispersion of the population, extremely harsh weather and soil conditions, a uniquely short construction season, constraints on the local labor force, the absence of a road system for hundreds of villages and towns, and limited access to the power grid, among others. These factors increase the cost and risk of facilities deployment in the state, rendering the state dissimilar to any other. For this reason the

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<sup>6</sup> *Id.* para. 184.

<sup>7</sup> *Id.* para. 189.

<sup>8</sup> *Id.* para. 188.

Commission carefully crafted Alaska-specific universal service rules on a number of occasions.

ACS has had only limited access to the CQBAT model proposed by the ABC Coalition – thus far, none of the underlying cost inputs have been made available – but ACS does *not* believe that *any Alaska-specific costs* were included in the CQBAT model.<sup>9</sup> For example, in estimating network costs between the customer premises and the nearest IAP, the CQBAT model assumes the IAP always is located at a regional tandem within the LEC's LATA. There is no IAP in the state of Alaska, so this assumption causes the CQBAT model to underestimate Alaska costs. Similarly, the CQBAT model assumes fiber in the network between the serving wire center (SWC), and other points of aggregation in the network. However, fewer SWCs in Alaska are connected by fiber than typically are found in the Lower 48 – in fact, many of ACS's SWCs are connected to network transport only by point-to-point microwave radio or satellite radio-based connections, the cost of which may vary widely from the cost of fiber over an equivalent distance. Moreover, even where fiber facilities exist or could be installed, the distances covered can be hundreds of miles – far longer than typically would be the case elsewhere.

Therefore, in the limited time available since the release of the *Cost Model Public Notice*, ACS has focused its modeling efforts on identifying the categories of costs and specific cost inputs that appear to be absent from the CQBAT model. ACS's modeling efforts are conservative, in that they currently reflect the national costs used in the

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<sup>9</sup> Although the Commission has not adopted the CQBAT model, it is the only forward-looking cost model proposed in these proceedings that attempts to comprehensively estimate the costs of deploying and operating voice and broadband-capable networks nationwide.

CQBAT model except in two categories: (i) the cost of *microwave-based* or *satellite-based* second-mile transport between those SWCs not on the road system, and therefore not expected to be connected by fiber, and the nearest ACS fiber ring, which serves the area around Anchorage, Fairbanks and Juneau; and (ii) the cost of long-haul transport from one of those aggregation points *via undersea fiber optic cable* to the nearest IAPs, which are located in Portland, Oregon and Seattle, Washington. Even within these two categories of Alaska-specific costs, ACS has not estimated all of the ongoing operating costs – for example, ACS’s model does not yet fully factor in the forward-looking cost for fuel, which must be delivered by air, to run the prospective microwave links.<sup>10</sup> Nor does the model yet reflect other differences resulting from higher input prices in Alaska than those that likely were employed in the CQBAT model based on costs in the Lower 48 states. For example, network maintenance often requires flying a technician to the site, not merely a truck roll. Nevertheless, with the Alaska-specific input data for these two categories of costs, ACS is providing the Bureau with a more complete cost model, using the CQBAT model plus long-run incremental costs for remote area transport and the link to the nearest IAP, than any party thus far has been able to offer to estimate the

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<sup>10</sup> The ACS Model develops operating cost factors on a study area basis. To the extent that microwave systems exist in the current network, the cost for such items as fuel are accounted for. However, the costs of fuel for the microwave links that are anticipated in a forward-looking network, but not yet built, are not yet accounted for in the model.

cost of broadband deployment in Alaska.<sup>11</sup> When ACS has access to the CQBAT cost inputs, ACS expects that it will update the record with additional Alaska-specific data.<sup>12</sup>

ACS notes that the CQBAT model appears to estimate the major network cost components other than the two modeled by ACS, including (a) last-mile transmission between the customer premises and the SWC, (b) fiber-based second-mile transport (for those locations that have fiber-based access) from the SWC to the ACS aggregation point in Anchorage, Fairbanks or Juneau, and (c) switches, routers, DLSAMs and other central office equipment; but ACS believes that the CQBAT model will require adjustment to reflect Alaska-specific inputs in those cost categories. Because ACS has not yet had access to the CQBAT cost inputs, it has not been able to adjust *those* inputs for Alaska-specific costs, and thus the model ACS submits at this stage in all likelihood *underestimates* the forward-looking costs of an efficient provider in Alaska. For example, even for locations connected to ACS's fiber facilities, traffic may have to be routed over hundreds of miles via fiber before reaching one of the aggregation points in Anchorage, Fairbanks or Juneau, and therefore transport costs in Alaska may be higher than estimated in the CQBAT model, which assume distances more typical in the Lower 48 states. Moreover, in many serving areas, where enabling broadband capability even for a small number of customers may require the addition of T-1s or satellite backhaul, the incremental cost per customer location should be expected to be quite substantial. ACS therefore cautions all parties reviewing the initial ACS model results that those

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<sup>11</sup> ACS acknowledges that it has modeled forward-looking costs only for areas within the ACS LEC service territories, not for areas served by other LECs; but the Bureau should be able to use the ACS model to predict costs for other parts of the state, where the same cost drivers reasonably can be expected to apply.

<sup>12</sup> To the extent that the ABC Coalition has included any such costs in their model, they should identify what costs were included.

results likely underestimate the total per-location forward-looking costs for most census blocks in Alaska.

Nevertheless, using the ACS model for satellite-based and microwave-based second-mile transport, and submarine cable-based transport to the nearest IAP, ACS believes that the Commission may begin to more accurately model forward-looking costs for service in Alaska. In the event that ACS gains access to the cost inputs for the CQBAT model, it will compare those inputs to Alaska-specific costs and update the record accordingly.

*The ACS Model Complies With the Cost Model Public Notice.* The Bureau states that the model it adopts should be capable of estimating costs at the census block level or an even smaller geographic area. The ACS model allows for the results to be expressed at a census block level. ACS has estimated forward-looking costs for each local serving area within the ACS LECs' service territories. The number of census block associated with each such site is indicated.<sup>13</sup> In some cases, particularly in Anchorage, the census block boundaries do not correspond with the wire center boundaries, but this has no impact on the modeling. For Anchorage wire centers, ACS modeled no second-mile or backhaul costs in addition to those predicted by CQBAT model. For more remote locations, the costs of microwave or satellite second-mile transport or submarine cable middle-mile transport do not vary for different census blocks within a given town or village.

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<sup>13</sup> The ACS model does not exclude any census blocks on the basis of being served by an unsubsidized competitor because, to ACS's knowledge, all wireline service providers in Alaska are receiving high-cost funding.

ACS also complies with the Bureau's requirement that the model be capable of estimating the forward-looking economic costs of an efficient wireline provider at a granular level, based on reasonable engineering assumptions and likely deployment decisions. Employing a "greenfield" approach, consistent with the CQBAT model, ACS uses the most efficient network solution for each particular serving wire center location, which in many cases is a microwave or satellite-based rather than fiber-based solution. ACS calculates the forward-looking network investment costs for microwave, satellite and undersea cable links based on the capacity necessary to serve an estimated number of ACS customer locations within the speed, latency and capacity parameters required under the *USF/ICC Transformation Order*. ACS also estimates the forward-looking operating costs by developing annual cost factors equal to the ratio of the current actual expenses (by network function) to the corresponding actual network investment balance, and applying these cost factors to the forward-looking network investment balances. ACS's return-on-capital and capital recovery assumptions are based on the Commission's default cost-of-capital<sup>14</sup> and depreciation parameters.<sup>15</sup> ACS uses the results from these calculations to develop annual and monthly forward-looking costs, and divides the estimate of total forward-looking costs by the expected number of customer locations in a

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<sup>14</sup> The Commission has requested comment on the appropriate weighted average cost of capital (WACC) for rate-of-return carriers, indicating its preliminary view that the WACC should be no greater than nine percent. *USF/ICC Transformation Order, supra*, para. 1057. However, until the Commission adopts a rule change, the authorized rate of return for cost-based LECs remains 11.25 percent. ACS has run a sensitivity analysis on the results of its modeling and, even with reduction in WACC, the core results will not materially change.

<sup>15</sup> Taking a conservative approach, the ACS model uses the low end of the range of depreciation rates established by the FCC in its safe harbor, but ACS believes that any prudent investor would employ a depreciation schedule of no longer than five years, given that the Commission has adopted a five-year limit on CAF II funding.

serving area, to yield the per-customer forward-looking costs set forth in ACS's model. The notes to the model set forth in detail the algorithms and inputs developed and relied upon by ACS in this modeling process.

Finally, the Bureau requests that models be submitted in a form accessible to the public, subject to the reasonable restrictions applicable to Highly Confidential information. Unlike the CQBAT model, ACS submits a model and cost inputs that are available to all interested parties in an accessible Excel spreadsheet format. Subject to an appropriate Protective Order, interested parties may analyze the data inputs, change input values, run sensitivity tests and analyze the results of various model runs. Indeed, ACS hopes to submit additional cost inputs to update its model when it has an opportunity to compare the CQBAT cost inputs with real-world Alaska costs.

*The Bureau Should Address Alaska-Specific Problems Identified In the Modeling Process Before Adopting Any Model.* The Bureau indicates that it will consider the unique circumstances of Alaska and other insular and remote areas pursuant to a later notice. However, ACS urges the Bureau as soon as possible to provide clarification as to how it intends to model for certain critical cost factors. Chief among these are the cost of backhaul and customer demand, which are interrelated variables. In rural Alaska, satellite backhaul is a chief driver of cost-of-service, and capacity currently is constrained. Backhaul costs vary widely between fiber and satellite (and other non-fiber-based) transmission technologies. Unlike most LECs serving the Lower 48 states, Alaskan carriers must purchase in advance sufficient satellite backhaul capacity to meet anticipated demand, with no or limited competitive source of capacity, and no realistic likelihood of a timely increase in supply to meet demand increases, given the extended

construction and launch horizon for satellite facilities. While the Commission generally may not view demand as a significant factor affecting incremental cost-of-service, in the many parts of Alaska that rely on satellite backhaul, demand is a significant limiting factor for capacity, and a driving factor for costs, both in terms of individual customer needs and in the larger needs of a community or cluster of customers served by the same backhaul link. ACS has attempted to model for realistic demand assumptions based on its experience in areas of Alaska where broadband is available today, but rapidly growing bandwidth demand as well as an evolving competitive environment suggest that demand and backhaul constraints – and the related costs – plausibly could be expected to grow exponentially over the course of a five-year period.

## **II. CONCLUSION**

ACS asks that the Commission take Alaska-specific cost differences into account when modeling forward-looking costs for deploying and operating broadband-capable networks, and adjust its model for the specific needs and constraints of operating in Alaska, to establish appropriate and sufficient high-cost support for service to the state.

Respectfully submitted,

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