

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Consider  
Modifications to the California Advanced  
Services Fund.

Rulemaking 12-10-012  
(Filed October 25, 2012)

**REPLY COMMENTS OF THE OFFICE OF RATEPAYER ADVOCATES  
ON THE AMENDED SCOPING MEMO AND RULING OF ASSIGNED  
COMMISSIONER REQUESTING COMMENTS ON THE IMPLEMENTATION  
OF PROGRAM CHANGES TO THE CALIFORNIA  
ADVANCED SERVICES FUND**

**CANDACE CHOE**  
Attorney  
Office of Ratepayer Advocates

California Public Utilities Commission  
505 Van Ness Avenue  
San Francisco, CA 94102  
Telephone: (415) 703-5651  
Email: [candace.choe@cpuc.ca.gov](mailto:candace.choe@cpuc.ca.gov)

May 1, 2018

**ADAM CLARK**  
Regulatory Analyst  
Office of Ratepayer Advocates

California Public Utilities Commission  
505 Van Ness Avenue  
San Francisco, CA 94102  
Telephone: (415) 703-5212  
Email: [adam.clark@cpuc.ca.gov](mailto:adam.clark@cpuc.ca.gov)

TABLE OF CONTENTS

	<u>PAGE</u>
I. INTRODUCTION .....	1
II. DISCUSSION.....	1
A. THE COMMISSION MUST ENSURE HIGH-QUALITY SERVICE IS PROVIDED BY PROJECTS FUNDED BY THE INFRASTRUCTURE ACCOUNT.....	1
1. Speed.....	2
2. Latency.....	2
3. Network Reliability.....	3
4. Packet Loss .....	4
5. Jitter.....	4
B. THE COMMISSION SHOULD NOT ADOPT CCTA’S PROPOSAL TO LIMIT PRICING COMMITMENTS. ....	5
C. THE COMMISSION SHOULD ACCEPT APPLICATIONS TO THE INFRASTRUCTURE ACCOUNT ONCE PER YEAR. ....	6
D. THE COMMISSION SHOULD NOT ALLOW MULTIPLE EXTENSIONS FOR PROVIDERS TO MEET RIGHT OF FIRST REFUSAL COMMITMENTS. ....	7
E. THE COMMISSION SHOULD NOT ESTABLISH A SEPARATE PHASE III TO CONSIDER LINE EXTENSION.....	7
III. CONCLUSION.....	8
ATTACHMENT A	

## I. INTRODUCTION

Pursuant to the February 14, 2018 Amended Scoping Memo and Ruling of Assigned Commissioner (“Amended Scoping Memo”) in Rulemaking 12-10-012 setting forth implementation of program changes to the California Advanced Services Fund (“CASF”), the Office of Ratepayer Advocates (“ORA”) submits the following reply comments on the Phase II Staff Proposal appended to the Amended Scoping Memo as Appendix C.

## II. DISCUSSION

### A. **The Commission Must Ensure High-Quality Service is Provided by Projects Funded by the Infrastructure Account.**

The North Bay North Coast Broadband Consortium (“NBNCBC”) states in Opening Comments, “[T]he CPUC should be the regulator of the quality of service provided by any projects utilizing funding from the CASF and Infrastructure Account.”<sup>1</sup> Indeed, Public Utilities (“P.U.”) Code § 281, as amended by Assembly Bill (“AB”) 1665, directs the California Public Utilities Commission (“Commission” or “CPUC”) to deploy *high-quality* advanced communication services.<sup>2</sup> In order to ensure high-quality services, the Commission should set benchmark standards for key service quality metrics – as further discussed below. The Commission should require applicants to certify in their application that retail broadband services (in CASF project areas) will meet the benchmarks. Then, in order to verify the quality of services after completion of CASF projects, the Commission should require grantees to submit data on the service quality metrics discussed below and in Attachment A for a period of at least 2 years.<sup>3</sup> Attachment A includes details on the following service quality metrics: network trouble tickets,

---

<sup>1</sup> NBNCBC Opening Comments at p. 3.

<sup>2</sup> P.U. Code § 281(a).

<sup>3</sup> The Commission should expand the requirements included within the Phase II Staff Proposal on reporting of project take rates and adoption to also include reporting on the following service quality metrics: data transfer speeds, latency, transmission control protocol (“TCP”) failure rates, jitter, network trouble tickets, service outages, service orders, service installations, and customer complaints. The Commission should consider utilizing the CalSpeed application to standardize the reporting of the aforementioned service quality metrics for Infrastructure account grantees.

service outages, service orders, service installations, and customer complaints. The sections below include details on more technical service quality data, including: data transfer speeds, latency, TCP failure rates, and jitter.

## 1. Speed

The Commission should not adopt AT&T's recommendation to remove speed from the scoring criteria and not award points for bandwidth speed.<sup>4</sup> P.U. Code § 281 includes requirements on the minimum data transfer speeds that Broadband Infrastructure Grant Account ("Infrastructure Account") grantees must provide. The Commission must require Infrastructure Account grantees to deploy networks capable of providing at least 10 Mbps download and 1 Mbps upload ("10/1 Mbps").<sup>5</sup> While 10/1 Mbps is a minimum threshold, faster speeds can provide increased levels of service quality. For example, the Federal Communications Commission's ("FCC") current definition for wireline (fixed) broadband services with advanced telecommunications capabilities requires speeds of at least 25 Mbps download and 3 Mbps upload (25/3 Mbps).<sup>6</sup> The Commission should give preference to projects that deploy faster speeds to facilitate the deployment of high-quality broadband service.

## 2. Latency

AT&T recommends the CPUC add a latency factor<sup>7</sup> to the scoring criteria for applications to the Infrastructure Account.<sup>8</sup> The Commission should adopt AT&T's recommendations that the CPUC require applicants to specify the latency of their

---

<sup>4</sup> AT&T Opening Comments at p. 22.

<sup>5</sup> P.U. Code § 281(f)(5)(A).

<sup>6</sup> *In the Matter of Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, 2016 Broadband Progress Report, GN Docket No. 15-191, FCC 16-6, (rel. Jan. 29, 2016) (hereinafter, "2016 Broadband Progress Report") at p. 3.

<sup>7</sup> Latency is a measurement of the time it takes a packet of data to travel from one point in the network to another, and can be measured as one-way or round-trip time in milliseconds. Lower latency values are desirable, as networks with high latencies can experience audio distortions and a decreased network quality. High latency causes websites to load slowly and video to lag and distort which can negatively impact real-time applications such as video conferencing services, teleworking, and telemedicine.

<sup>8</sup> AT&T Opening Comments at pp. 4, 14.

proposed service as part of their applications and include latency in scoring applications for ranking purposes.<sup>2</sup> In comments submitted to the FCC, the CPUC recommended the inclusion of latency as part of the criteria defining “advanced telecommunications capability” for wireline and mobile data services.<sup>10</sup> In other comments to the FCC, the CPUC stated, “[L]atency is a key impact that determines whether the network can support real-time services like VoIP services.”<sup>11</sup> Therefore, in order to ensure that CASF broadband services are high-quality, the CPUC should add a latency factor to scoring criteria for applications to the Infrastructure Account.

Industry standards aim to have networks perform with a round-trip latency of less than 100 milliseconds (ms).<sup>12</sup> The Commission should require applicants to certify in their application that their broadband services (in CASF project areas) will meet a latency threshold of 100 ms or less, which is a maximum threshold suitable for real-time applications, including VoIP.<sup>13</sup>

### **3. Network Reliability**

The Commission should also assess CASF broadband services using a reliability metric called TCP connection failure rate. The Commission’s CalSpeed application measures network reliability in terms of the rate at which devices fail to establish a connection with an Internet protocol address, i.e. the TCP connection failure rate.<sup>14</sup> In the past, the Commission found TCP connection failure rates demonstrate the inadequacy of some wireless broadband services, in particular mobile wireless services in rural areas.<sup>15</sup> To ensure that the CASF program supports high-quality services, the Commission should

---

<sup>2</sup> AT&T Opening Comments at p. 14.

<sup>10</sup> CPUC Comments to the FCC, GN Docket No.15-191, September 15, 2015 at p. 3.

<sup>11</sup> CPUC Comments to the FCC, GN Docket No.14-126, September 4, 2014 at p. 18.

<sup>12</sup> The FCC recognized in its Copper Retirement Program that a round-trip latency of 100ms was required for automatic grant of an application. *In the Matter of Technology Transitions and Policies and Rules Governing Retirement of Copper Loops by Incumbent Local Exchange Carriers*, Declaratory Ruling and Order on Reconsideration, July 15, 2016. FCC 16-90A1 p. 34.

<sup>13</sup> 47 C.F.R. § 54.309(a)(2)(iii).

<sup>14</sup> CalSPEED: California Mobile Broadband, Spring 2017 at p. 5.

<sup>15</sup> CPUC Comments to the FCC, GN Docket No.15-191, September 15, 2015 at p. 19.

adopt standards similar to the FirstNet specifications, which require service to first responders to have at least 95 percent reliability.<sup>16</sup> The Commission should require applicants to certify in their application that their broadband services (in CASF project areas) will have, on average, a TCP connection failure rate of less than five percent.

#### **4. Packet Loss**

Packet loss measures the amount of packets that do not reach the intended destination or are discarded by a network device due to congestion. Packet loss is measured as a percentage of packets lost divided by total packets sent. Most real-time applications, such as voice and video teleconferencing, are sensitive to packet loss. High packet loss will cause users to experience gaps in call audio and teleconferencing video feeds that will make telecommunications services difficult to use. Industry standards aim to have networks perform with a packet loss of less than one percent.<sup>17</sup> The Commission should require applicants to certify in their application that their broadband services (in CASF project areas) will have, on average, packet loss rates of less than one percent.

#### **5. Jitter**

Jitter measures the variation in latency experienced by individual packets in a data transmission. Jitter is typically represented in either one-way or round-trip and measured in ms. High jitter will cause high latencies and will lead to inconsistency in connection speed, video quality, and audio quality. Industry standards aim to have networks perform with a jitter of less than 50 ms.<sup>18</sup> The Commission should require applicants to certify in their application that their broadband services (in CASF project areas) will have, on average, jitter of less than 50 ms.

---

<sup>16</sup> FirstNet Solicitation No. D15PS00295 – Section J, Attachment J-1, Coverage and Capacity Definitions at pp. J 1–2.

<sup>17</sup> The FCC recognized in its Copper Retirement Program that a packet loss ratio of 1% or less was required for automatic grant of an application. *In the Matter of Technology Transitions and Policies and Rules Governing Retirement of Copper Loops by Incumbent Local Exchange Carriers*, Declaratory Ruling and Order on Reconsideration, July 15, 2016. FCC 16-90A1 at p. 36 para. 95.

<sup>18</sup> See ITU-T – Rec. G.1050: Network model for evaluating multimedia transmission performance over Internet Protocol – Table 6: Impairment level per service test profile at p. 16.

**B. The Commission Should not Adopt CCTA’s Proposal to Limit Pricing Commitments.**

The California Cable and Telecommunications Association (“CCTA”) recommends the Commission limit the two-year price freeze to applicants that only provide retail broadband service within CASF projects and exempt applicants that provide broadband services in areas that are not CASF projects. Instead, CCTA recommends that the Commission require applicants that offer service outside of CASF projects to offer CASF project areas the same rates, terms, and conditions the provider offers to other customers in the State.<sup>19</sup>

The Commission should not adopt CCTA’s recommendation because pricing commitments are necessary to protect customers and ensure prudent use of ratepayer funds. Two-year pricing commitments are reasonable given the Legislature’s intent to facilitate the “adoption of broadband technology and... [ensure] quality universal access for all residents.”<sup>20</sup> Pricing commitments play an important part in encouraging adoption of broadband services by guaranteeing stable and affordable rates. The Commission should continue to require Infrastructure Account grantees to make pricing commitments for *at least* two years, if not longer.

By limiting the pricing commitment, the Commission would risk applicants gaming the system by presenting favorable prices to the Commission during the application process and then changing prices upon completion of the project. Without the constraints of competition, and with significantly reduced capital costs, a provider might seek to maximize profits by raising prices to levels that are unaffordable to many customers. Such action could adversely affect subscribership rates in the project area and substantially reduce the benefits of the project. Inadequate adoption rates can even jeopardize the viability of projects. Currently, CASF applicants must submit an “analysis of the viability of the project and the assumptions used in the analysis such as the funding

---

<sup>19</sup> CCTA Phase II Comments at p. 8.

<sup>20</sup> Internet for All Now Act, Section 2 (b).

sources, the adoption rates, subscriber data, and adoption rates [sic].”<sup>21</sup> The Phase II Staff Proposal also requires applicants to submit a viability analysis of the project based on a five-year forecast that takes into account projected revenues from customers “showing changes in subscriptions and service rates and charges through the pricing commitment period and the period thereafter, years three through five, as applicable.”<sup>22</sup> This information would be unhelpful and unreliable if companies could change prices at-will upon completion of a project.

CCTA claims that the two-year pricing commitment is a disincentive to companies interested in the CASF grants; however, approved CASF applications show that companies have actually committed to pricing periods longer than the required two-year period. For example, Race Communications agreed to a five year period for the Race-Gigafly Phelan project,<sup>23</sup> CalNeva Broadband agreed to a three year period in the Coalinga-Huron Gigabit Project,<sup>24</sup> and Cal.net agreed to a three to five year period in the Amador Calaveras and Alpine Project.<sup>25</sup> Grantees’ willingness to make commitments beyond the requisite two years further demonstrates the reasonableness of the requirement.

**C. The Commission Should Accept Applications to the Infrastructure Account Once per Year.**

Several parties oppose the Commission adopting a one-time annual application deadline and encourage the Commission to accept CASF applications on a rolling basis or multiple times per year.<sup>26</sup> The Commission should not adopt these recommendations and should, instead, accept applications once per year. Accepting applications on a

---

<sup>21</sup> Resolution T-17443 at p. 13.

<sup>22</sup> Phase II Staff Proposal at p. 13.

<sup>23</sup> Resolution T- 17525 at p. 6.

<sup>24</sup> Resolution T-17563 at p. 5.

<sup>25</sup> Resolution T-17501 at p. 7.

<sup>26</sup> See, Frontier Communications, *et al.*, Opening Comments at p. 16. See also, California Center for Rural Policy, *et al.*, Opening Comments at p. 17. See also, California Emerging Technologies Fund (“CCTA”) Opening Comments at p. 6.



rolling basis impairs staff's ability to score and rank applications relative to other applications. It is necessary for the Commission to compare and rank applications in order to select the best projects and ensure prudent use of ratepayer funds.

**D. The Commission Should Not Allow Multiple Extensions for Providers to Meet Right of First Refusal Commitments.**

CCTA encourages the CPUC to allow multiple extensions to meet right of first refusal ("ROFR") commitments;<sup>27</sup> however, this would allow incumbent companies to unfairly keep CASF funded projects out of unserved and underserved areas. Companies that have committed to broadband deployment in their ROFR filings must be held accountable to those commitments. This would be difficult if the companies could apply for multiple extensions to meet those commitments. The Commission should not adopt CCTA's recommendation to allow multiple extensions for meeting ROFR commitments. The Commission should continue the process adopted in Resolution T-17590 which allows one six month extension for companies that encounter a) permitting issues; b) compliance issues with the California Environmental Quality Act; or c) weather or other acts of God.<sup>28</sup> If a company is unable to meet its ROFR commitments, the company should lose the ability to file a ROFR for the area in the future.<sup>29</sup>

**E. The Commission Should Not Establish a Separate Phase III to Consider Line Extension.**

Frontier proposed that the line extension provision in AB 1665 be addressed in a separate Phase III of this proceeding. The Commission should not establish a separate Phase III of this proceeding. This would only lead to delays in implementing a Line Extension Program and meeting the goals of the CASF program. AB 1665 specifically directs the Commission to determine program elements including income eligibility, an overall per-household maximum grant amount, and required contribution by the

---

<sup>27</sup> CCTA Phase II Comments at p. 10.

<sup>28</sup> Resolution T-17590 at p. 1.

<sup>29</sup> ORA Opening Comments at p. 12.

household or property-applicant. The staff proposal and parties' comments are sufficient for the Commission to establish program elements.

### **III. CONCLUSION**

The Commission must ensure that the CASF achieves its statutory mandates by carefully establishing program rules and processes to guarantee ratepayer funds support only eligible projects and benefit the intended recipients. The recommendations set forth above will assist the Commission in meeting the program goal.

Respectfully submitted,

/s/ CANDACE CHOE  
CANDACE CHOE

Attorney for the  
Office of Ratepayer Advocates

California Public Utilities Commission  
505 Van Ness Avenue  
San Francisco, CA 94102  
Telephone: (415) 703-5651  
E-mail: [candace.choe@cpuc.ca.gov](mailto:candace.choe@cpuc.ca.gov)

May 1, 2018

# **ATTACHMENT A**

## **Broadband Network Service Quality**

The following service quality data should be reported by Infrastructure Account grantees for CASF project areas on an annual basis for a period of two years, with the first submission due one year after the completion of the project.

- a) Monthly broadband trouble ticket totals for the previous 12 months. The trouble-tickets should include trouble tickets opened by the service provider. Additionally, the service provider should report the monthly total of broadband subscriber accounts.
- b) Annual broadband network availability. The percentage of the service provider's network availability for broadband services, for its entire broadband network. Broadband network availability may also be reported for each zip code and/or census block, if that information is available.
- c) Annual data on broadband service outages. For each service outage, the data should include:
  - i. Number of customers affected
  - ii. Type of customers affected: residential, small business, or large business
  - iii. Incident date
  - iv. Incident time
  - v. Duration of outage in total minutes
  - vi. Outage restoration time
  - vii. Location of outage: County, City and Census Block(s)
  - viii. Type of equipment that failed
  - ix. Network involved
  - x. Description of the cause
  - xi. Description of the root cause
  - xii. Description of the incident
  - xiii. Methods used to restore the outage
  - xiv. Steps taken to prevent the outage from re-occurring
- d) Service installation intervals (per month) for orders for new broadband service installations received during the previous 12 months. Service installation intervals should be expressed as the number of business days between the date the service order was placed and the date the service becomes operational. This data should exclude all orders with customer requested appointments later than the provider's offered commitment date.
- e) Provide the total number of broadband service orders received and the number of those orders completed, per month, during the previous 12 months.

- f) Customer-initiated complaints regarding the Applicant's broadband service in the project area. This data should include:
- i. Type of complaint: billing (identify type of billing complaints, such as unauthorized charges, disconnection, rate protest), delayed orders/missed appointments, customer service, refusal to service, availability/service outages, equipment, interference, privacy, speed.
  - ii. Type of customer: residential, small or large sized business.
  - iii. Date of complaint
  - iv. Resolution time for a complaint
  - v. Customer location: county, city and census block
  - vi. Frequency of complaint by the same customer