

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Approval of funding for the grant application of Plumas-Sierra Telecommunications (U-7218-C), from the California Advanced Services Fund for the Lake Davis Project located in Plumas County.

Resolution T-17675

OPENING COMMENTS OF PLUMAS-SIERRA TELECOMMUNICATIONS ON DRAFT RESOLUTION T-17675 FOR APPROVAL OF FUNDING FOR THE GRANT APPLICATION OF PLUMAS-SIERRA TELECOMMUNICATIONS (U-7218-C), FROM THE CALIFORNIA ADVANCED SERVICES FUND FOR THE LAKE DAVIS PROJECT LOCATED IN PLUMAS COUNTY.

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Pursuant to Rule 14.5 of the California Public Utilities Commission's (Commission) Rules of Practice and Procedure, Plumas-Sierra Telecommunications submits these Opening Comments on Draft Resolution T-17675 ("Draft Resolution") approving \$895,098 from the California Advanced Services Fund for the grant application of Plumas-Sierra Telecommunications (PST) to construct the Lake Davis Project (Project) located in Plumas County.

I. INTRODUCTION

On October 31, 2019, the Commission noticed the Draft Resolution in its Daily Calendar. The Draft Resolution approves funding for the grant application of Plumas-Sierra Telecommunications for the Lake Davis Project in the amount of \$895,098, 80% of PST's funding request of \$1,118,873.

Public Utilities Code § 281(b)(2)(B)(i) encourages the Commission to give preference to projects in areas with no Internet connectivity or where Internet connectivity is available only through dial-up service and that are not served by any form of wireline or wireless facility-based broadband service.

According to the Broadband Map, based on latest CPUC broadband availability data released in February 2019, the proposed project area is eligible for CASF infrastructure grants, or unserved by wireline or fixed wireless broadband service; however, the Broadband Map indicates the area has certain levels of Internet access via mobile services which qualifies as "internet connectivity." Thus, this project did not receive the additional dial-up only 40 percent funding for Service Level Preference.

As discussed in detail below, mobile coverage in the proposed project area is spotty, at best, and hindered by terrain and foliage from a heavily forested region. PST asks the Commission to evaluate the documentation below and consider increasing the award amount for Service Level Preference.

PST has also changed its low-income program offering to provide service to low-income customers for \$15 per month. PST would also ask the Commission to increase the funding level for Low Income Consideration by the additional 10% for this project.

II. COMMENTS ON "INTERNET CONNECTIVITY" VIA MOBILE SERVICE

Through the Broadband Map, CPUC uses only wireline and fixed wireless coverage to determine eligible areas for CASF grants, mobile coverage is not included.

Foliage and tree canopy attenuates radio waves, causing signal degradation, particularly in rural forested areas; especially in fall and winter seasons¹. Topography also impacts mobile coverage. This

¹ M.H. Hashim, S. Stavrou, "Measurements and modelling of wind influence on radiowave propagation through vegetation", in *IEEE Transactions on Wireless Communications*, Volume 5, Issue 5, pp. 1055-1064, May 2006.

K. Benzair, "Measurements and modelling of propagation losses through vegetation at 1-4 GHz", in *Antennas and Propagation, 1995. ICAP '95. Ninth International Conference on* (Conf. Publ. No. 407) Volume 2, 4-7 April 1995 pp. 54-59 vol.2.

J. Dalley, M. Smith, D. Adams, "Propagation losses due to foliage at various frequencies", in *Proc. National Conf. on Antennas and Propagation*, March-April 1999, Conf. Pub. No. 461.

Project is in rough terrain with dense tree coverage, resulting in less than adequate mobile coverage.

Based on the Broadband Map, the latest mobile coverage testing was carried out in 2017.. It is likely that mobile testing was carried out by CPUC when weather was benign. However, deep in fall and winter seasons actual coverage and speed levels can be significantly less due to weather precipitations and winds. Additionally, the Broadband Map indicates that mobile broadband testing was conducted at points nearby, but not at the PST project's proposed areas or census blocks.

In order to assess current mobile broadband coverage, on November 20th 2019, PST was able to carry out mobile testing using the CPUC CalSPEED application on the four major carrier networks (AT&T Mobile, Verizon, Sprint and T-Mobile) within the project area and found that there was not mobile broadband coverage, as detailed by the mobile testing screenshots below. These results can be accessed and verified in the Broadband Map (<http://www.broadbandmap.ca.gov/>).

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- M.J. Gans, N. Amitay, Y.S. Yeh, T.C. Damen, R.A. Valenzuela, C. Cheon, J. Lee, "Propagation measurements for fixed wireless loops (FWL) in a suburban region with foliage and terrain blockages", in *IEEE Transactions on Wireless Communications*, Volume 1, Issue 2, pp. 302–310, April 2002.
- F. Wang, K. Sarabandi, "A Physics-Based Statistical Model for Wave Propagation Through Foliage", in *IEEE Transactions on Antennas and Propagation*, Vol. 55, pp. 958–968, March 2007.
- [6] S.A. Torrico, R.H. Lang, "A Simplified Analytical Model to Predict the Specific Attenuation of a Tree Canopy", *IEEE Transactions on Vehicular Technology*, Vol. 56, pp. 699-703, March 2007.

AT&T Mobile Speed Test Results

Results	
Date	11/20/19
Time	5:37 PM
Upload speed	N/A Mbps
Download speed	N/A Mbps
Latency	N/A ms
Jitter	N/A ms
Network type	No Connection
Latitude	39.87884
Longitude	-120.47452
MOS	N/A

Results	
Date	11/20/19
Time	5:47 PM
Upload speed	N/A Mbps
Download speed	N/A Mbps
Latency	N/A ms
Jitter	N/A ms
Network type	No Connection
Latitude	39.87341
Longitude	-120.49221
MOS	N/A

T-Mobile, Mobile Speed Test Results

CalSPEED	RESULTS	MOS
Date	11/20/2019	
Time	05:39 PM	
Upload Speed	N/A mbps	N/A
Download Speed	0.00 mbps	
Latency	N/A ms	4.35
Jitter	N/A ms	
Network Type	UNKNOWN	4.34
Latitude	39.87884	
Longitude	-120.47463	4.33
MOS Value	N/A	
Video Streaming	N/A	1.14
Video Conference	N/A	
VoIP	N/A	4.36
Delete		OK
11/20 02:43 PM	0.98 mbps	2.23 mbps
		98 ms
		SD
		4.33

CalSPEED	RESULTS	MOS
Date	11/20/2019	
Time	05:50 PM	
Upload Speed	N/A mbps	N/A
Download Speed	0.00 mbps	
Latency	N/A ms	N/A
Jitter	N/A ms	
Network Type	UNKNOWN	4.35
Latitude	39.87356	
Longitude	-120.49205	4.34
MOS Value	N/A	
Video Streaming	N/A	4.33
Video Conference	N/A	
VoIP	N/A	1.14
Delete		OK
11/20 02:43 PM	6.72 mbps	6.84 mbps
		75 ms
		HD
		4.35

Verizon Mobile Speed Test Results

No Service 5:38 PM 100%	
Results	Delete
Date	11/20/19
Time	5:38 PM
Upload speed	N/A Mbps
Download speed	N/A Mbps
Latency	N/A ms
Jitter	N/A ms
Network type	No Connection
Latitude	39.87878
Longitude	-120.47456
MOS	N/A

No Service 5:48 PM 100%	
Results	Delete
Date	11/20/19
Time	5:48 PM
Upload speed	N/A Mbps
Download speed	N/A Mbps
Latency	N/A ms
Jitter	N/A ms
Network type	No Connection
Latitude	39.87368
Longitude	-120.49201
MOS	N/A

Sprint Mobile Speed Test Results

CalSPEED		
SPEED TEST	RESULTS	MAP VIEW
Date	11/21/2019	N/A
Time	12:56 PM	
Upload Speed	N/A s	N/A
Download Speed	0.00 s	
Latency	N/A ms	N/A
Jitter	N/A ms	
Network Type	UNKNOWN	N/A
Latitude	39.87865	
Longitude	-120.47449	N/A
MOS Value	N/A	
Video Streaming	N/A	N/A
Video Conference	N/A	
VoIP	N/A	N/A
11/20 03:51 PM	0.62 mbps / 0.08 mbps / 228 ms	N/A / .00
11/20 03:35 PM	N/A mbps / 0.00 mbps / 1070 ms	N/A / .00

CalSPEED		
SPEED TEST	RESULTS	MAP VIEW
Date	11/21/2019	N/A
Time	12:48 PM	
Upload Speed	N/A s	N/A
Download Speed	0.00 s	
Latency	N/A ms	N/A
Jitter	N/A ms	
Network Type	UNKNOWN	N/A
Latitude	39.87350	
Longitude	-120.49195	N/A
MOS Value	N/A	
Video Streaming	N/A	N/A
Video Conference	N/A	
VoIP	N/A	N/A
11/20 03:51 PM	0.62 mbps / 0.08 mbps / 228 ms	N/A / .00
11/20 03:35 PM	N/A mbps / 0.00 mbps / 1070 ms	N/A / .00

Finally, PST believes that residents of the proposed project area will greatly benefit from PST’s fixed broadband project in ways that mobile broadband cannot provide. The last paragraph of page 12 of to the [CPUC] *Staff Proposal on Essential Service and Affordability Metrics – ATTACHMENT* for R.18-07-006, published in August 2019, states the following:

“[CPUC] Staff believes that fixed broadband is an essential service for Californians to be able to participate fully in society. For example, telehealth usage had a 1,202% growth between 2012 and 2017. In addition, the Federal Communications Commission (FCC) states that “[a]ccess to broadband has become essential for students in all levels of education.” Furthermore, staff finds that mobile broadband services are not a viable substitute for fixed broadband services due to cost, access, and capacity limitations of wireless technology. For example, schoolwork, job applications, and government services are functions that are difficult, if not impossible, to accomplish on mobile. In addition, mobile services provide lower speeds, lower data caps, higher latency and higher prices compared to wireline broadband.”

Based on the statement above and PST mobile speed test results, PST believes the Project should be awarded additional funding for Service Level Preference.

III. COMMENTS ON LOW-INCOME OFFERING

PST has reevaluated its low-income offering and will be offering plans starting at \$15 per month for low-income customers. Details of the program follow.

Program Purpose

The purpose of the PST Low-income Program is to provide low-cost internet to low-income Plumas-Sierra Telecommunications residential customers.

Program Availability

The low-income program is available to low-income, full-time, permanent residences in CASF Grant Funded Plumas-Sierra Telecommunications service areas.

Benefit

Program participants will receive a discounted rate for their internet services. Plans will start at \$15.00 per month with 10 Mbps download speed.

Program Participation Qualifications and Conditions

All participating customers must qualify with the following income guidelines:

Number in	Maximum Annual
1-2	\$31,020
3	\$39,060
4	\$47,100
5	\$55,140
6	\$63,180
For each additional household member add	

*Income levels are based on 190% of the Federal Poverty Level and are subject to change each year. Proof of income must be current to within 6 weeks of application date.

Terms and Conditions

- Customer’s account must remain current during the duration of service in order to continue to receive the discounted rate.
- The person who applies for assistance must be a full-time, permanent resident at the service address and be the PST customer of record.

Pricing

Download Speed	Upload Speed	Monthly Price
10 Mbps	1 Mbps	\$15.00
15 Mbps	5 Mbps	\$25.00
20 Mbps	5 Mbps	\$35.00

Enrollment and Certification

Customer may apply by mail or may come into the Portola office for application assistance. Program enrollment will need to be re-certified annually at the beginning of each calendar year.

Marketing

PST will market its low-income program through a variety of communication channels including but not limited to: brochures, bill inserts, newspaper ads and PST’s website.

Training

PST will train its customer service and sales representative on the requirements and benefits of the low-income program to encourage customer participation.

Because PST will now serve low-income customers for no more than \$15 per month, PST respectfully requests the additional 10% funding for Low Income Consideration for this project.

IV. CONCLUSION

Plumas-Sierra Telecommunications respectfully submits the foregoing comments and urges the Commission to reconsider the funding level of the Lake Davis Project at 100%.

Dated: November 21, 2019

Respectfully submitted,

_____/s/

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APPENDIX A – PLUMAS-SIERRA TELECOMMUNICATIONS REDLINE OF THE DRAFT RESOLUTION T-17675

Resolution T-17675: Approval of funding for the grant application of Plumas Sierra Telecommunications (U-7218-C), from the California Advanced Services Fund up to the amount of \$1,118,873 for the Lake Davis Project located in Plumas County.

SUMMARY

This Resolution approves \$1,118,873 in funding from the California Advanced Services Fund (CASF) for the grant application of Plumas Sierra Telecommunications (PST) to construct the Lake Davis Project. PST proposes to deploy a middle-mile fiber network and a wired and wireless technology last-mile network to provide Internet service in the Lake Davis area located in Plumas County. The proposed project will enable broadband access at speeds of at least 10 megabits per second (Mbps) download and 1 Mbps upload to 125 CASF-eligible households. The proposed project area is currently unserved with no facilities-based wireline or fixed wireless broadband service provider. The proposed project will provide ancillary benefits, including improved connectivity in a region located in a Tier 2 fire-threat zone of the California Public Utilities Commission’s (Commission) Fire Map.

DISCUSSION

In compliance with D.18-12-018, Staff determined PST’s revised Lake Davis Project is eligible to receive \$1,118,873 in CASF Infrastructure grant funding.

II. Minimum Performance Criteria

Table 1. Minimum Performance Criteria

	CASF Performance Criteria	Lake Davis Project
Project Completion	CEQA-exempt projects must be completed within 12 months, and all other projects shall be completed within 24 months after receiving authorization to construct	12 months (CEQA exempt)
Pricing	Prices committed for two years after completion of the project	2-years
Speed	At least 10/1 Mbps	100 / 20 Mbps
Latency	Maximum of 100 ms of latency	60 ms
Data Caps	Minimum of 190 GBs per month	No data cap

Affordability	Must offer low-income plan	<u>\$15/mo for 10 / 1 Mbps</u>
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III. Funding Determination

Table 3: Summary of PST’s Funding

	Middle-Mile Funding	Last-Mile Funding	Total
PST’s Funding Request	\$906,875	\$211,998	\$1,118,873
Staff’s Funding Recommendation	<u>\$906,875</u>	<u>\$211,998</u>	<u>\$1,118,873</u>

PST is awarded 100 percent funding to cover the costs for its Lake Davis Project. AB 1665 authorizes the Commission to award grants to fund all or a portion of a project and requires that it determine, on a case-by-case basis, the level of funding to be provided. Staff considered the statutory factors to determine the grant funding level, pursuant to Public Utilities Code §§ 281(f)(13) and 281(b)(2)(B)(i), and CASF rules adopted in D.18-12-018. Based on those factors, Staff determined that PST qualifies for a 100 percent funding level and thereby awards a CASF Infrastructure grant of \$1,118,873 for the Lake Davis Project. Table 4 summarizes Staff’s funding level determination for the project.

Table 4. Criteria for Project Funding Level for PST Lake Davis Project

Funding Criteria	Lake Davis Project
Baseline for Eligible Project (60%)	60%
Service Level Preference: Only Dial-up or No Internet Connectivity (40%)—no fixed or mobile broadband	<u>40%</u>
Low Income – (up to 40%) <ul style="list-style-type: none"> • Median Household Income for community is less than CARE standard for family of 4, which is currently \$50,200 (30%) • Applicant serves low-income customers for no more than \$15/month (10%) 	0% <u>10%</u>
Others: PU Code Sec 281 (f)(13) Criteria – (up to 20%) <ul style="list-style-type: none"> • Inaccessible Location (10%) • Uses Existing Infrastructure (10%) • Makes a Significant Contribution to the Program Goal (10%) 	10% 0% 10%
Total Funding Level	<u>100%</u>

Service Level Preference qualifies for additional funding. Public Utilities Code § 281(b)(2)(B)(i) encourages the Commission to give preference to projects in areas with no Internet connectivity or where Internet connectivity is available only through dial-up service and that are not served by any form of wireline or wireless facility-based broadband service. According to the Broadband Map, the proposed project area is unserved by wireline or fixed wireless broadband service; ~~however, Staff discovered the area has Internet access via mobile services. Mobile service qualifies as “internet connectivity.”~~ Thus, this project ~~does not~~ receives the additional 40 percent funding.

Low Income consideration qualifies for additional funding. The median household income of the census block groups in the proposed project area is \$62,321, which does not meet the CASF low-income eligibility threshold. For those with income below 190 percent of the federal poverty level, PST will offer plans of \$15 per month for 10 / 1 Mbps. ~~All the broadband plans offered are more than \$15/month even with the low-income discount.~~ Thus, this project ~~does not~~ receives the additional funding.

THEREFORE, IT IS ORDERED that:

1. The Commission shall award \$1,118,873 to PST for the Lake Davis Project as described herein and summarized in Appendix A of this Resolution, which shall be paid out of the CASF Infrastructure Grant Account in accordance with the guidelines adopted in D. 18-12-018 and its Appendix 1, and with the process defined in Appendix D “Payments to CASF Recipients” of this Resolution.

APPENDIX A

Resolution T-17675

Plumas Sierra Telecommunications, Lake Davis Project

CASF Applicant Key Information <i>Project Name</i>	PST Lake Davis Project
<i>Project Plan</i>	<p>The project proposes to deploy a middle-mile fiber network and a wired and wireless technology last-mile network to provide Internet service in the Lake Davis area located in Plumas County. The proposed project will enable broadband access at speeds of at least 10 Mbps download and 1 Mbps upload to 125 CASF-eligible households. The proposed project area is currently unserved with no facilities-based wireline or fixed wireless broadband service provider.</p>
<i>Project Size (in square miles)</i>	<p>0.92</p>
<i>Download/Upload speed</i>	<p>100 Mbps / 20 Mbps</p>
<i>Location</i>	<p>Plumas County</p>
<i>Community Names</i>	<p>Lake Davis</p>
<i>Census Blocks</i>	<p>060630003004447 060630003004448 060630003004449 060630003004451 060630003004452 060630003004459 060630003004461 060630003004466 060630003004467 060630003004542</p>
<i>Median Household Income (by Census Block Group)</i>	<p>\$ 62,321</p>
<i>Estimated potential subscriber size</i>	<p>125 households</p>
<i>Applicant expectations</i>	<p>38 households (30-percent take rate)</p>
<i>Pricing Plan (Monthly)</i>	<p>10/1 - \$55; 15/5 - \$65; 20/5 - \$75; 25/10 - \$85; 50/10 - \$95; 100/20 - \$109 (no installation fee)</p>
<i>Deployment Schedule (from permit approval date)</i>	<p>6 months</p>

<i>Proposed Project Budget (Total)</i>	\$ 1,118,873 Middle Mile budget: \$906,875 Last Mile budget: \$211,998
<i>Grant Requested Amount (100 percent)</i>	\$ 1,118,873
<i>CASF Grant Amount (<u>100</u> percent)</i>	\$ <u>1,118,873</u> Middle Mile: \$ <u>906,875</u> Last Mile: \$ <u>211,998</u>
<i>Recommended Grant per household passed</i>	\$ <u>8,951</u> \$ <u>1,696</u> (last-mile cost only)