BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Regarding Broadband Infrastructure Deployment and to Support Service Providers in the State of California.	Rulemaking 20-09-001 (Filed September 10, 2020)

REPLY COMMENTS OF COMMUNICATIONS WORKERS OF AMERICA, DISTRICT 9 ON THE ASSIGNED COMMISSIONER'S RULING SEEKING COMMENT FOR THE LOCATIONS FOR A STATEWIDE OPEN-ACCESS MIDDLE-MILE BROADBAND NETWORK

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Pursuant to the August 6, 2021 Assigned Commissioner's Ruling Seeking Comment on the Locations for a Statewide Open-Access Middle-Mile Broadband Network,[1] the Communications Workers of America, District 9 ("CWA") submits these reply comments.

I. CALIFORNIA'S MIDDLE-MILE NETWORK MUST ENABLE A FUTURE PROOF SYMMETRICAL LAST MILE NETWORK

Several opening comments detail the historical and predicted increases in broadband consumption.[2] CWA urges the Commission to ensure that any middle mile deployment provides for a generational investment that ensures a future proof symmetrical last mile network that will serve Californians for decades and ensure availability for future uses not imagined today.

CWA technicians agree with Frontier that state funded middle mile deployments should

[1] *Order Instituting Rulemaking Regarding Broadband Infrastructure Deployment and to Support Service Providers in the State of California, R.20-09-001*, Assigned Commissioner's Ruling (Aug. 6, 2021). On August 20, 2021, the deadline for reply comments was extended to September 21, 2021.
[2] *See* Frontier Opening Comments on ACR at 4-5 (Sep. 3, 2021) [hereinafter Frontier]; Electronic Frontier Foundation Opening Comments on ACR at 2; City and County of San Francisco Opening Comments on ACR at 4.

include a network construction capable of delivering 10 gigabytes or more and include the largest possible fiber counts (minimum 432 count fiber cable) that ensures support for Fiber to the Cell Site, fiber-to-the-premises (FTTP), and anchor institutions.[3] CWA recommends that middle mile fiber cables be sized to provide a minimum of 25 percent spare capacity for growth, as well as 25 percent spare capacity for restoral of service in the event of a breakage. Middle mile networks should also be designed with true rings or physically separate paths.

CWA also believes that deployments should be able to accommodate symmetrical upload speeds to accommodate the increased demand today and in the future.[4] A future proof system also needs to include additional conduit and meet point locations to allow for interception of existing fiber cables by providers without additional expenses or time delays.[5] CWA estimates that the distribution of cables to neighborhoods for provision of 1 gigabyte service to a community with a population of 7,000 or an average of 1,750 households, would require 192 fibers beyond the cable head in 12 and 24 fiber ribbons. Middle mile networks should also include an allowance for 10 gigabyte service to prepare for future business growth and Multidwelling Units (MDU).

In rural environments, the Commission should consider whether the nodes or access points of the network route brings the middle mile network within a reasonable distance (e.g. 20 miles) of each community with a minimum population of 4000 residents. For example, in the Central Valley, many communities are separated from each other by distances of 5-20 miles. This could be used as a yardstick for network access junctions along the route or Central Office facilities at the end points. Depending on the terrain, an aerial middle mile fiber can cost between

[3] Frontier at 5.
[4] *Id*.
[5] *Id*.

$25,000 and $50,000 per mile and can carry traffic with minimum degradation for up to approximately 25 miles.

CWA agrees with The Utility Reform Network (TURN) that the State's middle mile network would benefit from layering ancillary capacity leased from private providers to provide redundancy and route diversity.[6] The leased ancillary capacity could prove to be beneficial in high-risk areas prone to natural disasters, especially for public safety answering points and emergency communications, by providing alternative communication paths that could ensure continuity of service in the event the state network fails.

The existence of a middle mile network, while informative, does not by itself guarantee a healthy network with sufficient capacity capable of delivering the backbone for a future proof symmetrical last mile network. CWA agrees with TURN's recommendation that the Commission should determine how service quality problems at existing middle mile infrastructure "have prevented entities such as competitive local exchange carriers, Internet service providers (ISPs), wireless Internet service providers (WISPs) or government agencies from obtaining middle-mile connections."[7] While service quality issues often arise from outdated last mile infrastructure, it could also be caused by an outdated middle mile network. An analysis of current and previous service quality issues in the existing middle mile infrastructure, including frequency of maintenance and existence of adequate workforce to promptly respond to outages, could inform the Commission on new middle mile deployments.

II. THE COMMISSION SHOULD REVISE ITS METRICS FOR PRIORITIZATION OF MIDDLE MILE DEPLOYMENTS TO ENSURE ACCURATE EVALUATION OF UNSERVED AND UNDERSERVED AREAS AND TO FIRST ADDRESS

[6] *See* Turn Opening Comments on ACR at 12 (Sep. 3, 2021).
[7] *Id.* at 3.

NEEDS IN ESJ COMMUNITIES, TRIBAL COMMUNITIES, AND HIGH FIRE THREAT AREAS

CWA appreciates the Commission's focus on prioritizing middle mile deployments to unserved and underserved areas of the state. However, CWA reiterates points made by several commenters that the Commission should revise its metrics for prioritization of middle mile deployments to not only address download speeds, but also upload speeds and latency.[8] Any middle mile deployment should be capable of supporting last mile FTTH symmetrical speeds to enable resource intensive applications for today and the next generation. Failure to include upload speeds and latency in the analysis allows areas served by fixed wireless to count as served. Cal Advocate's opening comments detail how fixed wireless does not provide affordable, high speed, and reliable broadband service.[9] For example, LTD Broadband, the largest winner of the most recent FCC RDOF auction, offers fixed wireless download speeds of up to 35 mbps and upload speeds of up to 7 mbps. LTD broadband charges $110 per month for this plan, compared to the average monthly broadband prices of $89.91 for 100 Mbps download speeds across all utility types in California.[10] Furthermore, fixed wireless does not provide the consistent and reliable service provided by fiber. Fixed wireless signal will further deteriorate for customers who are farther from the antenna site or who are obstructed by terrain or foliage.

CWA also agrees with the Center for Accessible Technology that "[b]ecause the split between counties with high levels of service and those with low levels of service does not tend to

[8] *See e.g.* Frontier at 5 ("The need for symmetrical speeds and scalability for future expansion should be factored into the identification of priority locations and funding decisions for deploying or upgrading all broadband infrastructure, including for the state's construction of middle mile network infrastructure."); Opening Comments of City County of San Francisco at 2 (Sep. 3, 2021)("establishing a definition of unserved household based solely on download speeds would not appropriately consider other requirements for a robust middle-mile network, such as upload speeds.").

[9] *See* Public Advocates Office Opening Comments on ACR at 13 (Sep. 3, 2021) [hereinafter Cal Advocates].

[10] *Id*.

cluster around the 50% mark, the Commission may want to consider counties with more than 35 percent of households lacking 100 Mbps download speeds as having insufficient middle-mile access."[11] Ultimately, it may be necessary to examine coverage at a more granular level than county to truly address the areas most in need.

Lastly, CWA supports Cal Advocate's recommendation to prioritize middle mile build-outs near Environmental and Social Justice (ESJ) communities, tribal communities, and Tier 2 and 3 High Fire Threat District (HFTD) areas that are unserved or underserved by middle mile.[12] This prioritization supports digital equity by prioritizing historically disadvantaged communities

III. LAST MILE PROVIDERS USING THE STATE'S MIDDLE-MILE NETWORK SHOULD BE REQUIRED TO OFFER A LOW-COST BROADBAND PLAN

As with other publicly-subsidized broadband networks, use of the state's middle mile network should carry an obligation to make service available at an affordable rate to low-income households. CWA agrees with Cal Advocates that these service plans should be comparable to the plans already offered by major providers, such as Access from AT&T.[13]

IV. THE WORKERS WHO BUILD THE MIDDLE-MILE NETWORK MUST BE WELL-TRAINED AND THE STATE SHOULD PARTNER WITH CWA AND OTHER LABOR ORGANIZATIONS TO SUPPORT TRAINING AND REFERRAL PROGRAMS

The Commission should collaborate with the Department of Technology, the Third Party Administrator, and CalTrans to carry out the construction of the middle-mile network using a high-road approach to ensure contractors are supporting good jobs in California and workers are

[11] See Center for Accessible Technology Opening Comments on ACR at 2 (Sep. 3, 2021).
[12] *See* Cal Advocates at 1.
[13] *Id*. at 11.

well-trained for the skilled work of fiber splicing. CWA represents 10,000 telecom technicians in California and our members have a wealth of knowledge that could contribute to structuring workforce development and referral components necessary to recruit and train the workforce available for this large-scale, statewide project. The skills required to build durable communications networks are the product of years of discipline, problem-solving, and commitment to customer service among the legacy workforce in this sector.

Broadband deployment is different from traditional construction in that ISPs have historically relied on directly-employed workers, rather than contractors, to build the core elements on the network. For this reason, typical approaches to ensure construction contractors maintain good training and standards are not as appropriate in this setting. CWA supports the telecom industry standard of employer-based training, along with an expansion of training partnerships with community college and trade school certificate programs.

V. THE COMMISSION HAS THE RIGHT TO REGULATE BROADBAND

The California State Association of Counties is wrong to assert that state regulation of broadband is preempted by federal laws and regulations.[14] The California Constitution, the Public Utilities Code, the Commission's recent rulemaking actions, and a recent federal appeals court ruling have all affirmed the Commission's authority over broadband.[15] The State of California should be applauded for leading the way in asserting the urgent necessity of state regulation of broadband networks to ensure essential communications services are available to

[14] *See* California State Association of Counties Opening Comments on ACR at 4 ("[a]s Commissioners are aware, California's ability to regulate broadband networks is largely precluded by federal laws and regulations.").

[15] *See* Const. Article XII, sec. 5; Pub. Util. Code sec. 701; Order Instituting Rulemaking into the Review of the California High Cost Fund-A Program, Decision Adopting Broadband Imputation in the General Rate Cases of the Small Independent Local Exchange Carriers, D 21-04-005 (April 15, 2021); Decision Adopting Wireline Provider Resiliency Strategies, D 21-02-029 (February 11, 2021); and *Mozilla Corp. v. FCC*, 940 F.3d 1 at 81 (D.C. Cir. 2019).

all residents. The federal government and the states have complementary roles to play in oversight of communications networks, a long-recognized facet of cooperative federalism that has receded in recent decades due to industry pressure for across-the-board deregulation.[16]

Among the important roles regulators continue to play in a competitive market is ensuring that competing networks can communicate with each other. As TURN states in its Opening Comments, the "[o]bligations and authority to interconnect are core principles of the telecommunications network necessary to provide broadband."[17]

While policy makers debate the merits of various strategies to achieve universal broadband service, CWA recognizes there are limits to what the state can achieve in its regulatory role under our current system. Deployment grants through the California Advanced Services Fund may not be sufficient to connect all unserved and underserved households. Thus, the state should use a variety of tools and strategies at its disposal including Cal Advocate's recommendation to use competitive solicitations to secure commitments from providers to build last mile service to priority communities.[18]

VI. CONCLUSION

CWA supports the objectives behind SB 156 and appreciates the Commission's focus on prioritizing middle mile deployments to unserved and underserved areas of the state. CWA, however, urges the Commission to ensure that California's middle-mile network enables a future proof symmetrical last mile network, that deployments prioritize unserved and underserved areas in ESJ communities, tribal communities, and high fire threat areas, and that last mile providers

[16] *See*, for example, Witteman, Christopher, Net Neutrality from the Ground Up (April 8, 2021). Loyola of Los Angeles Law Review, Forthcoming, Available at SSRN: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3822016.
[17] *See* TURN at 15.
[18] *See* Cal Advocates at 15.

using the state's middle-mile network are required to offer a low-cost broadband plan. Lastly, workers who build the middle-mile network must be well-trained and the state should partner with CWA and other labor organizations to support training and referral programs.

Sincerely,

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