

**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

**COMMENTS OF CENTURYLINK COMMUNICATIONS, LLC (U-5335-C),
LEVEL 3 TELECOM OF CALIFORNIA, LP (U-5358-C) AND
LEVEL 3 COMMUNICATIONS, LLC (U-5941-C)
ON ASSIGNED COMMISSIONER'S RULING**

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Pursuant to Rule 14.3 of the Commission’s Rules of Practice and Procedure, CenturyLink Communications, LLC (U-5335-C); Level 3 Telecom of California, LP (U-5358-C) and Level 3 Communications, LLC (U-5941-C)¹ (collectively “Lumen”) hereby provide comments on the August 6, 2021 Assigned Commissioner’s Ruling. The deadline for these comments was extended to September 3, 2021 pursuant to an email ruling.²

Lumen agrees with the Commission’s conclusion that lack of middle mile capacity can be a constraint on universally available broadband services. As state and federal programs fund last mile projects in previously unserved and underserved areas, the need for middle mile capacity to transport that traffic to other carrier networks is growing. Lumen supports the Commission’s effort to identify areas without sufficient middle mile facilities, especially in rural areas, which can be subject to significant construction delays due to environmental issues or local permitting requirements.

Lumen is acutely aware of environmental and regulatory issues that substantially delay construction of broadband facilities. For the last three and one-half years, Lumen has diligently worked to complete two fiber broadband projects in underserved areas that it committed to construct as part of the approval of its merger with Level 3. Even though these projects were part of a commitment to a state agency, Lumen encountered numerous permitting delays both from local jurisdictions and other state agencies. Current agency authority and regulations necessarily require a certain level of permit review, which Lumen understands, so we are

¹ CenturyLink Communications, Level 3 Telecom, Level 3 Communications are all owned by CenturyLink, Inc. but continue to operate as separate subsidiaries.

² Administrative Law Judge Ruling, August 20, 2021.

encouraged by discussions that this funding will be accompanied by streamlined permitting processes.

While Lumen believes that the questions posed by the Assigned Commissioner Ruling are important to ensure a successful California middle mile network, Lumen respectfully submits that the Commission should examine the construction problems encountered by carriers and develop an expedited resolution process in which the Commission facilitates timely construction permits and other regulatory approvals from local jurisdictions and state agencies. Once the Commission has this process in place for the state-owned middle mile network, it should be utilized to assist carriers deploying privately-owned broadband facilities as well.

Lumen looks forward to assisting the Commission, the Office of Broadband and Digital Literacy and the Corporation for Education Network Initiatives (CENIC) with the middle mile project. Lumen strongly supports the choice of CENIC as the third-party administrator because of its existing on-the-ground experience with constructing and operating public interest broadband network and expertise and participation in this proceeding.

I. RESPONSES TO ASSIGNED COMMISSIONER QUESTIONS

1. Identifying Existing Middle Mile Infrastructure:
Attachment A provides a list of the state routes proposed for the statewide open access middle mile network, referred to as the “Anchor Build Fiber Highways.”

- i. What routes, if any, should be modified, removed from consideration, or revised? Provide an explanation for these suggestions.
- ii. Are there existing middle mile routes that are open access, with

sufficient capacity, and at affordable rates on the county highway routes listed in Attachment A?

Response: Lumen has an extensive existing fiber network throughout California from which the state, or the third-party administrator, could purchase IRUs. The location of Lumen's existing fiber network can be found at the following link: <https://www.lumen.com/en-us/resources/network-maps.html>. Lumen can provide a map with more granular location information upon request, but would need to do so on a confidential basis due to security and competitive concerns. In addition to offering IRUs on its existing fiber network, Lumen has substantial expertise constructing, operating and maintaining new fiber facilities for the middle mile network. In fact, as depicted in our network map above, Lumen operates 450,000 route miles of fiber worldwide.

- iii. In the context of these comments, what is sufficient capacity and affordable rates?

Response: Sufficient capacity is the amount of bandwidth necessary to support desired broadband speeds for users in a particular area based on anticipated take rates for a given speed. This is a complex analysis. All customers in a given area will not sign up for 100MB broadband. Networks should be scaled for growth of broadband adoption rates as other policies take effect, including last mile and low-income subsidies, and more users adopt broadband-based technologies. To ensure the most efficient use of this one-time funding and construction effort, these and other considerations should be fully analyzed by the Commission.

- iv. For routes that are identified as being open access, with sufficient capacity, and at affordable rates, how should the Commission verify these claims (*e.g.*, should Communications Division send a data request for service term sheets, rates, approximate dark fiber, lit fiber, and conduit capacity, etc.)? Are there any other criteria that should be used to verify these claims?

Response: Whatever means the Commission uses to ascertain the nature of existing middle mile networks, protections should be put in place to ensure that information is maintained as confidential.

2. Priority Areas: Federal funding must be encumbered and spent in a limited time period. Additionally, unserved and underserved areas of the state are in substantial need of broadband infrastructure investment.

- i. Is it reasonable to assume counties with a disproportionately high number of unserved households (*e.g.*, 50% or more unserved at 100 Mbps download) are areas with insufficient middle-mile network access?

Response: No. A significant impediment to providing broadband in unserved and underserved areas is the lack of *last* mile broadband facilities. Many of these areas are remote and geographically difficult to serve due to terrain and other factors. It is entirely possible, and maybe probable, that areas with high numbers of unserved households have sufficient middle-mile network access to serve them.

- ii. What other indicators, if any, should the Commission use to identify priority statewide open-access middle-mile broadband network locations (*i.e.*, built expeditiously, areas with no known middle-mile network access, regions underserved by middle-mile networks, regions without sufficient capacity to meet future middle-mile needs)?

Response: The Commission should focus on areas that are unserved or underserved for middle mile network access. This will help ensure that state investment does not undercut private investment in middle mile access.

3. Assessing the Affordability of Middle Mile Infrastructure: A key consideration is determining the cost of various middle mile services. Through identifying the costs of these services in California, as well as across the country and globe the Commission can identify a threshold whereby services can be considered reasonably affordable.

- i. What are existing providers paying or charging for middle mile services?

Response: The first inquiry that the Commission should undertake is whether a particular area has last-mile networks capable of delivering broadband service at speeds that existing or proposed middle mile networks can or would deliver. For example, if last-mile networks in a particular location are

robust, i.e., capable of serving all customers who demand service at a given speed, but customers are not purchasing broadband, middle-mile *may* be a constraint. However, Lumen has found that there are relatively few places where middle mile is insufficient to deliver high speed internet, and so often factors other than middle mile capacity are contributing to low end-user broadband adoption.

- ii. Are there other factors or sources of information the Commission should consider for determining whether these services are affordable?
- iii. Is it reasonable for the costs of these services to change depending on the location where the service is provided(*i.e.*, rural vs urban)?

Response: Yes. There are numerous considerations underlying the costs to provide middle-mile access, including distance, terrain, geology, number of customers served per mile of middle-mile network, etc.

4. Leasing Existing Infrastructure: Indefeasible Rights of Use (IRUs) are long term leases (generally 20 to 30 years) for unrestricted, legal capacity on a communications network for a specified period of time. These contracts generally obligate the purchaser to pay a portion of the operating costs, and the costs of maintaining the infrastructure.

- i.If there is existing open access communications infrastructure with sufficient capacity to meet the state's needs, should the state purchase IRUs from that network?

Response: Yes. Supporting providers who have already installed fiber using private funding is an effective way to encourage additional private investment. Using public money to overbuild or compete with privately funded infrastructure creates a strong disincentive for carriers to invest in their networks in California. Lumen stands ready to provide IRUs on its network in locations where sufficient capacity exists to meet the state's middle mile needs. Please see Lumen's response to Question 1 regarding the location of its existing network.

- ii.Is there any value in the state purchasing an IRU from the

network if capacity is already available?

Response: If there is sufficient capacity and demand is being met for broadband service, i.e., service is available and affordable, there should be no need to lease IRUs for additional middle-mile network access. Doing so would create stranded investments for providers who have committed to build state-of-the-art networks to meet Californian's broadband needs.

- iii. If the state relies on IRUs for the development of the statewide network, will the generational investment that this funding provides be diminished when the IRU leases end 20 to 30 years later? Will existing networks run out of spare capacity?

Response: It is unlikely that existing fiber networks will run out of capacity because the opto-electronics can be upgraded to an almost infinite amount of capacity using existing fiber cables.

5. Interconnection: The statewide network will need to connect with other networks in order to deliver services.

- i. At what points should the statewide network interconnect (*e.g.*, to other networks, servers, etc.)?
- ii. Are additional exchange points necessary or strategic, and if so, where?

6. Network Route Capacity: The state will need to determine the amount of capacity to build into the network to meet existing and future demand.

- i. How many strands of fiber should the network deploy for each route?

Response: A minimum of 432 strands.

- ii. Are there other requirements or standards the Commission needs to consider to determine sufficient capacity?
- iii. Should the network also deploy additional conduit within each route for potential future expansion?

Response: Yes. Deploying additional conduit while the ground is open is a smaller expense compared to re-opening the ground

to install conduit. Spare conduit should also be treated as an open access resource available for competitive carriers to use to place their own fiber. Access points such as hand-holds should be installed to permit easy access to place and splice fiber. Lumen has encountered significant delays and denials when attempting to obtain space in ILEC conduits to place fiber.

- iv. Should these factors change based on the population density and distance from the core network?

Response: No. Spare conduit should routinely be installed regardless of the population density and distance from the core network.

II. PROPOSED EXAMINATION OF ISSUES DELAYING OR PRECLUDING CONSTRUCTION OF MIDDLE MILE FIBER

Lumen notes that SB 156 exempts the state-owned middle mile fiber network from California Environmental Quality Act (“CEQA”) review so long as the project: 1) is constructed along, or within 30-feet of, the right-of-way of any public road or highway; 2) is deployed underground where the surface area is restored to a condition existing before the project or placed aurally along an existing utility pole right-of-way; and 3) incorporates, measures developed by the Public Utilities Commission or the Department of Transportation to address potential environmental impacts including use of monitors during construction activities and measures to avoid or address impacts to cultural and biological resources.³ Nonetheless, the middle mile fiber network must comply with all conditions imposed by the planning department of a city or county as part of a local agency permit process, that are required to mitigate potential impacts of the proposed project.⁴

³ California Public Resources Code Section 21080.51(a)(1-4).

⁴ *Id.*, at Section 21080.51(a)(5).

In order to ensure that the middle mile network is deployed as expeditiously as possible, the Commission should solicit input from local jurisdictions in areas where the middle mile network will be constructed regarding their local permitting requirements and assist with the development of a streamlined process. Lumen further proposes the Commission create a liaison or ombudsman office to interact with local jurisdictions and state agencies to resolve permitting or other difficulties that delay construction of the network. Such an approach would be similar to the Commission’s effort to assist with deployment of equipment such as generators to improve carrier network resiliency during commercial power outages. The Commission directed carriers to submit resiliency plans that identified potential conflicts with local or state ordinances or rules that could prohibit or delay installation of backup power equipment and/or use of that equipment for long periods of time. The Commission stated that the data collected through providers’ resiliency plans “will guide a data-driven conversation between the State, the wireline providers, and local governments to resolve resiliency issues and support overall, enhanced community resiliency.”⁵

III. CONCLUSION

Lumen urges the Commission to prioritize areas where there is no known middle mile network access, and in areas that are underserved for middle mile network access, to help ensure that the open access network does not undercut existing private investment or discourage new investment. The Commission should also work to expedite permitting processes and improve the

⁵ D.21-02-029, at p. 76 (Feb. 9, 2021).

supply of accessible, open conduit. Last, the Commission and the State should utilize IRUs, purchased from private fiber providers, to construct new middle mile network.

Signed and dated September 3, 2021 at Walnut Creek, CA.

Respectfully submitted,

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