

**BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION**

**SUITE 350  
121 SEVENTH PLACE EAST  
ST. PAUL, MINNESOTA 55101-2147**

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|-------------------|--------------|
| Nancy Lange       | Chair        |
| Dan Lipschultz    | Commissioner |
| Matthew Schuerger | Commissioner |
| Katie Sieben      | Commissioner |
| John Tuma         | Commissioner |

In the Matter of the Petition of CenturyLink QC  
to be Regulated Pursuant to Minnesota Statute  
§ 237.025; Competitive Market Regulation

DOCKET No. P-421/AM-16-496  
DOCKET No. P-421/AM-16-547(HSTS)

**REPLY FINDINGS  
OF THE DEPARTMENT OF COMMERCE**

Dated: March 23, 2016

Respectfully submitted

*/s/ Linda S. Jensen*

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## I. INTRODUCTION

The Department submits these Reply Findings, which will not repeat the Department's proposals regarding issues addressed in the Department's Initial Proposed Findings. These proposed Findings are based on the Department's Reply Brief; headings are retained for the convenience of the Commission.

### B. CENTURYLINK HAS NOT SATISFIED THE "FIFTY PERCENT TEST" IN ALL EXCHANGES BY DEMONSTRATING IT SERVES FEWER THAN 50 PERCENT OF HOUSEHOLDS.

1. CenturyLink expressed concern that its petition not overstate the percentage of CenturyLink-served households in three exchanges in Northern Minnesota—Cook, Tofte, and Grand Marais.<sup>1</sup>
2. From its own records, CenturyLink could have accounted for the seasonally-disconnected<sup>2</sup> and seasonally-suspended lines,<sup>3</sup> and lines for which the service and billing addresses differed in a manner to disclose lines that serve a Tofte, Cook, or Grand Marais service address for a subscriber who maintains his or her primary residence and mailing/billing address elsewhere.
3. The Commission finds that CenturyLink's proposed adjustment is not reasonable because the Company could have adjusted the numerator of the fifty percent test to account for lines not used to serve households.<sup>4</sup>

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<sup>1</sup> CenturyLink Initial Brief at 9-10.

<sup>2</sup> The CenturyLink line count already omits seasonally disconnected lines, because the count was taken in December, 2015. Lubeck Aff. ¶ 6.

<sup>3</sup> Seasonally suspended lines are charged a reduced monthly rate identified by a unique universal service ordering code or other unique account-identifying feature that causes a rate adjustment.

<sup>4</sup> The Department has requested in discovery, but has not received at this writing, information that would be needed to make such an adjustment.

**C. THE PETITION SHOULD NOT BE GRANTED WITH RESPECT TO EXCHANGES WHERE CENTURYLINK FAILED TO DEMONSTRATE SATISFACTION OF THE 60 PERCENT TEST OF MINN. STAT. § 237.025.**

**1. CenturyLink Has Inflated the Numerator of the 60 Percent Test In Cable Franchisee-Served Exchanges, Where CenturyLink’s Methodology Inappropriately Fails to Use Publicly-Available Data Regarding Cable Franchises.**

4. The CenturyLink Initial Brief at 16 states that “CenturyLink does not have direct knowledge of where exactly competitors offer service,” and it implies, erroneously, that such data is not available.
5. CenturyLink did not provide facts to identify households who can actually choose to receive service from a competitive service provider (CSP), but instead proposes a methodology, under which, wherever FCC Form 477 records show that one household is served in a census block by a competitor, CenturyLink “rounds up” to treat as competitor-served, “all households” in that census block.
6. CenturyLink also proposes that CenturyLink porting data be used to “estimate” households’ access to competitive voice services.
7. Both the porting estimates and the “rounding-up” methodology are unreliable. CenturyLink’s expert explained that porting data should not be relied on.<sup>5</sup>
8. CenturyLink materially overstates households’ ability to choose voice service from a competitor because, as to cable and wireline telephone service, one cannot reasonably infer, from the fact that a census block is classified as “served,” in Form 477 information, that because *one* household is served, that *all* households in that block can choose voice service from a wired CSP.
9. CenturyLink claims that cable franchisees are CSPs in the vast majority of its exchanges; CenturyLink attempted to demonstrate the existence of cable CSPs in 147 of the 154 wire centers. The “rounding up” that CenturyLink engaged in makes this methodology more prejudicial than helpful to the Commission. This is particularly true in smaller, less densely populated exchanges, where census blocks are larger.

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<sup>5</sup> Lubeck Aff. ¶ 37 (Mr. Lubeck states, “When reviewing this data, the Commission should bear in mind that *number portability data is of limited or no value in determining whether CenturyLink has met the statutory criteria at issue in this case.*” (Emphasis added))

10. The better approach is to use public franchise data. The precise number of households that can be served in each exchange by a cable CSP is determinable because cable companies are regulated as franchisees by state law (Minn. Stats. Ch. 238) and by municipal ordinances/franchise agreements.
11. Cable franchisees must build out facilities and offer service to all locations of a franchisor municipality<sup>6</sup> within five years of entry into a franchise, and the cable franchisee may not simply extend its facilities and service to additional households into the countryside surrounding a franchise service area without a written franchise arrangement with that adjacent jurisdiction.<sup>7</sup>
12. Further, when constructing its facilities throughout a municipality, cable companies cannot engage in “redlining” or other illegal discrimination that might otherwise create pockets of unserved neighborhoods within a franchise service area.<sup>8</sup>
13. The existence of franchise agreements/ordinances in CenturyLink exchanges is publicly-available factual data. Census data showing the number of households in each franchisor municipality is also readily-available public data.<sup>9</sup>
14. The Department provided an example of the Bird Island/Olivia exchange, where CenturyLink reported a total of 1966 households in the exchange. There are two municipalities in the exchange, Bird Island and Olivia. The Census Bureau’s “American Community Survey” (ACS) reports that the households in the cable franchise-served municipalities of Bird Island and Olivia totaled 1435 in 2015. The

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<sup>6</sup> Minn. Stat. § 238.17 notes that the municipalities can band together to create a “core service unit” that negotiates on behalf of a group of municipalities. For ease of the reader, this brief uses the common term “municipality” to refer to franchisors.

<sup>7</sup> Minn. Stat. § 238.084 states that all franchise ordinances must require that construction throughout the authorized franchise area must be substantially completed within five (5) years of the granting of the franchise and expiration date of the extension permit are coincident with that of the franchise of the core service unit. Further, in Minnesota, typically cable facilities are placed in the public right of way, and access to the public right of way is a topic addressed in the franchise ordinance. The franchise agreement/ordinance, for example, between the city of Minneapolis and CenturyLink to operate a cable system in Minneapolis is published online at: [https://www.municode.com/library/mn/minneapolis/codes/code\\_of\\_ordinances?nodeId=APXHM ICACOFR\\_CH2CATEFRAGBEMIMIQWBRSEINDBCE\\_S1SCFR\\_1.2FRAR](https://www.municode.com/library/mn/minneapolis/codes/code_of_ordinances?nodeId=APXHM ICACOFR_CH2CATEFRAGBEMIMIQWBRSEINDBCE_S1SCFR_1.2FRAR)

<sup>8</sup> Minn. Stat. § 238.23.

<sup>9</sup> The American Community Survey (ACS) reports demographic data between the decennial censuses. <https://factfinder.census.gov>

ACS allowed a margin of error<sup>10</sup> that could put the actual number of households served by the cable franchise in 2015 as low as 1325, or 60.6 percent of total households in the exchange, a number materially smaller than the 74.92 percent that CenturyLink estimated using its “rounding up from one to all” methodology and its “centroid” method to assign households to census blocks. Further, the ACS data shows that the population of these municipalities has been declining at a rate totaling about 15 per cent between the 2010 census and 2015 ACS report of households. (Bird Island went from 473 households to 411 during that time; the number of households in Olivia dropped from 1178 households in 2009 to 1024 in 2015). Based on these facts, it is reasonably likely that at present, (March 2017) the percentage of cable-served households in the shrinking municipality is less than 60 percent of the households in the exchange overall, and falling.

15. Because CenturyLink has the burden of proof, and could have provided the actual number of households who can choose service from a cable franchisee in the 147 exchanges where CenturyLink reported cable competition, but did not do so, the Department urges the Commission not to grant the Petition based exclusively on CenturyLink’s “rounding up” methodology in exchanges as to which the Commission lacks confidence that the criteria are satisfied.
16. Although it is reasonable for the Commission to find that the statutory criteria are satisfied in a significant number of exchanges, in many other exchanges, CenturyLink’s method of rounding from “one” to “all” households appears to unreasonably inflate the existence of competitive voice service, and actual facts are needed.
17. The Commission finds that the statutory criteria have been satisfied in certain larger, more dense, urban exchanges where the Commission is confident that cable franchisees provide service throughout the exchange.
18. The Commission will not approve the petition for exchanges in smaller, less densely-populated areas, as to which the Commission is not confident that the criteria are satisfied because competition is less likely to be available to 60% of the household in the exchange. Less densely-populated and rural areas cannot be assumed to be covered by a cable franchise. In the cable franchisee-served exchanges, where

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<sup>10</sup> Although the ACS explicitly discloses that its count of households are subject to a specified margin of error for each community in each year, CenturyLink did not disclose that the percentages of households it reported were subject to an explicit margin of error large enough for CenturyLink’s reported estimate to make the difference between passing and failing the 60 percent test.

achievement of the sixty percent test reasonably is in doubt, the Commission finds the CenturyLink has not met its burden of proof.

**2. Other Problems With CenturyLink’s Evidence and Arguments Regarding the Sixty Percent Test.**

19. To succeed on the Petition, CenturyLink must demonstrate to the Commission’s satisfaction that more than 60 percent of the households in each of its exchanges can choose voice service from a CSP.

**a. CenturyLink Inappropriate Aggregated Wireline-Served Households.**

20. A CSP is either a wireless provider or, as defined in Minn. Stat. § 237.025 subd. 1(a)(2): “any other provider...who owns...the last-mile or loop facilities delivering *service to a majority of households* in an exchange service area.”

21. CenturyLink’s method for counting wireline CSP-served households, using its “rounding up” methodology, is inconsistent with this statutory definition. CenturyLink has presented no data from which the Commission can determine that each of the competitors to which CenturyLink points, actually owns facilities delivering service to more than half (a “majority”) of the households in each exchange at issue.

22. CenturyLink’s method fails not only because it rounded up “one served household per block” to “all households per block,” but because CenturyLink *aggregated* providers in each exchange to reach the 60 percent target.

23. For example, the CenturyLink Initial Brief at 36 discusses the Holdingford exchange, which Mr. Nelson found did not meet the 60 percent criterion as to indoor wireless service,<sup>11</sup> compelling CenturyLink to make its case based on wireline service. In the view of the Department, it did not do so.

24. As shown in Lubeck Affidavit AL-4 and AL-10, CenturyLink reported 930 households in the exchange, of which (based on its “rounding up” method of counting) only 383 (or 41.1 percent) are in census blocks where at least one household can choose service from a cable franchisee.

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<sup>11</sup> The CenturyLink Initial Brief at 22 states, in the first full paragraph, that wireless services are available indoors “... with the exceptions being Biwabik,.... Sandstone, and Staples.” The Department notes that Sandstone was referenced in error; Holdingford is among the exceptions, not Sandstone.

25. Setting aside the erroneous assumption that all households in a census block can choose service and 41.1 percent being insufficient to meet the sixty percent standard, CenturyLink aggregates this estimate of 383 cable-served households with an estimated 189 (or 20.3 percent) households located in census blocks where a household is served by an “other wireline” provider, to conclude that a total of 572 households, or 61.5 percent of the households are in census blocks where a competitor serves a household.
26. In other words, CenturyLink aggregates the served-household count estimates of two small companies to try to show that a statutory CSP exists. This is not what the statute contemplates; robust competition does not necessarily follow when a company like CenturyLink faces much smaller competitors.
27. The same situation exists in Glenville. There, to try to meet the sixty percent showing, CenturyLink aggregated of the number of “rounded up” households in census blocks where two small “other wireline” companies served a household. CenturyLink reported 768 total households in the exchange, and that 368 (or 47 percent) were in census blocks where a rural Co-op served a household, and that 330 households (or 43 percent) were in census blocks where a customer was served by Jaguar Communications. CenturyLink aggregated these estimated numbers to conclude that 69 percent of households in the exchange could choose from a CSP. Neither the Co-op nor Jaguar are a CSP, however, because neither is a “provider...who owns...the last-mile or loop facilities delivering *service to a majority of households* in an exchange service area.”

**b. CenturyLink Has Not Accounted for CAF II Funding in Claimed CSP-Served Areas.**

28. CenturyLink claimed that Form 477 information is the best available data to show competitive situations, as shown by the FCC’s reliance on it to disburse subsidies to carriers like CenturyLink.
29. CenturyLink is the intended recipient of \$54 million to build facilities to “unserved” locations in the exchanges that are the subject of the Petition, as to which CenturyLink claims there is sufficient competition to meet the sixty percent test.
30. The Department raised the concern that locations cannot simultaneously be both served and unserved, and that CenturyLink should explain the situation. CenturyLink did not explain, but acknowledged that it is “possible” that CenturyLink is receiving CAF II funds in areas of wireless-only competition

31. CAF II funding<sup>12</sup> determinations are relevant to considerations of the current petition, because locations that have been awarded CAF II support have been the subject of an FCC determination that there is not at least one location in the census block currently being served by an unsubsidized competitor. The FCC’s determination of CAF II support is based on data filed by incumbent local exchange carriers, such as CenturyLink QC, in Form 477 filings.<sup>13</sup> “An area is classified as ‘eligible’ if the average monthly cost-per-location for that census block, as calculated by the cost model, is above the \$52.50 funding benchmark but below the \$198.60 “extremely high cost threshold” (EHCT) census block list, and is not served by an unsubsidized competitor, subsidized wireline competitor, or was not subject to specific types of bids in the rural broadband experiments.”<sup>14</sup> Consideration of CAF II funding locations is important to the current docket because CenturyLink alleges that wireline competition exists in certain exchanges where the FCC recently determined that no unsubsidized wireline competitor exist in the relevant exchange.
32. The below map<sup>15</sup> shows green areas for which CenturyLink (and its affiliates, CenturyTel and Embarq) receives CAF II subsidies. The wireless study areas of the Petitioner, CenturyLink QC, are encircled in red. The other CenturyLink QC exchanges are encircled in black. It is apparent that the Petitioner receives CAF II funds to build facilities to unserved locations in exchanges where CenturyLink’s Petition claims that cable and “other wireline” CSPs, as shown by the FCC’s Form 477 information, provide sufficient competition to satisfy the sixty percent test.

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<sup>12</sup> The Connect American Fund (CAF) is a high cost program that subsidizes telecommunications in rural and remote areas throughout the country.

<sup>13</sup> [https://apps.fcc.gov/edocs\\_public/attachmatch/FCC-14-54A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/FCC-14-54A1.pdf)

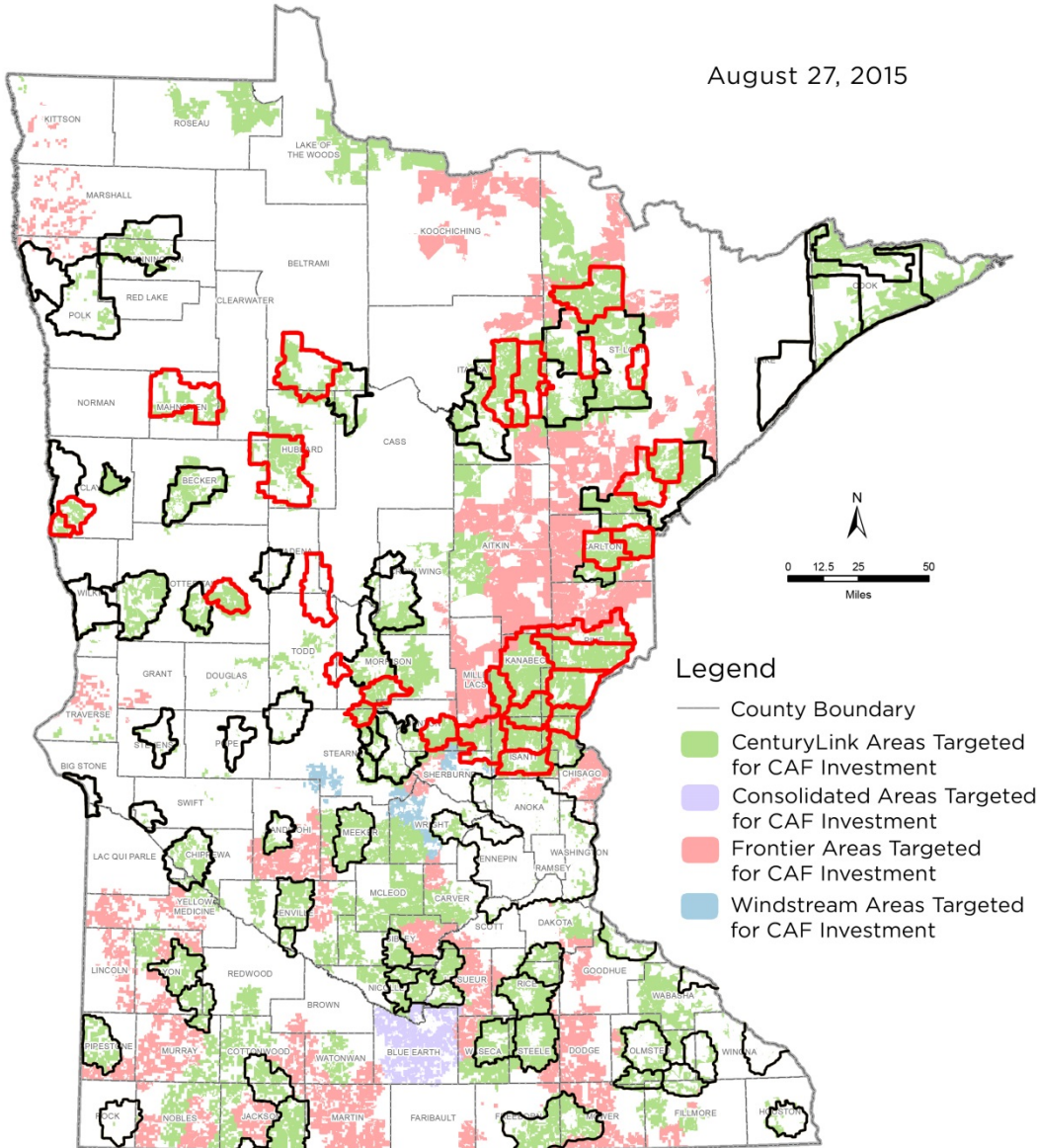
<sup>14</sup> <https://www.fcc.gov/reports-research/maps/fcc-connect-america-phase-ii-final-eligible-areas-map/>

<sup>15</sup> Published at <http://www.connectednation.org/fcc-maps>



# Connect America Fund Phase II Build-Out Commitments

August 27, 2015



| Carrier      | Housing and Business Locations in Targeted Areas | Annual CAF Investment |
|--------------|--|-----------------------|
| CenturyLink  | 114,739  | \$54,035,150          |
| Consolidated | 4,266  | \$2,516,502           |
| Frontier     | 46,910   | \$27,551,363          |
| Windstream   | 4,440  | \$1,519,855           |

33. CenturyLink’s failure to address the substantial CAF II funding it is receiving as to exchanges for which CenturyLink claiming the presence of CSPs, creates a gap in the

Company's support for its Petition, which it should have addressed. Gullikson Aff. ¶ 63.

**c. It Is Improbable That CenturyLink Under-Estimated Households Served by Wireline CSPs.**

34. CenturyLink claimed that it is “possible” that the Form 477 data on unserved locations underestimated the presence of cable and wireline competitors; CenturyLink said that wireline providers might have a legal obligation to serve even greater numbers of households than CenturyLink claims, because these providers are generally telecommunications carriers, and as such, some providers might have a tariff with service territories greater than the entire-census-block approach proposed by CenturyLink, and a household in these enlarged territories may have a “legal right” to purchase service under such a tariff.
35. With respect to the cable companies CenturyLink identified in 147 of the 154 wire centers, telephone service is only offered to customers in the same foot print where the cable company is franchised to provide cable service.<sup>16</sup>
36. CenturyLink states that, if a cable franchisee offers voice services to a household “in a wire center” then the Commission can find that all households in the wire center can obtain voice service from a CSP.
37. This is not accurate. Cable franchisees service areas are limited to the jurisdiction of the franchisor municipality.
38. As to the 26 “other wireline” CSPs CenturyLink has identified in its Petition, CenturyLink offered no evidence to show that the situation that CenturyLink described might exist. There are relatively few “other wireline” exchanges;<sup>17</sup> CenturyLink could have reviewed those companies’ publicly available tariffs and presented facts to support its claim, if any such facts existed. It did not.
39. The “legal right” of a prospective customer to insist that a provider build out its facilities upon demand does not necessarily mean that the requesting household “can choose voice service” from a CSP if the cost of the build-out is unreasonably costly.

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<sup>16</sup> Further, at least some cable companies do not agree they are telecommunications providers offering residential service. See, Investigation of Charter Comm., MPUC Docket No. 14-383.

<sup>17</sup> Lubeck Affidavit Exs. 8, 9 and 10 identify 26 “other wireline” companies throughout the Minnesota exchanges on which CenturyLink relies to establish the sixty percent test in whole or part; as discussed above, however, some of these companies are not CSPs. In 14 of the exchanges in which CenturyLink identifies an “other wireline” provider, it also identifies a cable franchisee that CenturyLink’s “rounding up” method shows to satisfy the sixty percent test.

40. Such build-outs can be unreasonably costly; as the carrier of last resort in its exchanges, CenturyLink has sought in the past to charge prospective customers hundreds of thousands of dollars to build facilities to an unserved location.<sup>18</sup>
41. The new statute, Minn. Stat. § 237.025, will not be read to mean that a household “can choose” a CSP if the cost to obtain service is so exorbitant and unreasonable that it effectively precludes any actual competition by the alternative provider.
42. CenturyLink has not demonstrated that it has excluded from its counts of “CSP-served households” those who receive service from a provider that, in part or all of its service area, offers service using UNE-P or resale finished services, which means those services are not those of a CSP.
43. Most of the companies identified by CenturyLink on AL-9 as “other wireline” are companies that have been certified by the Commission to be competitive local exchange carriers (CLECs), not incumbent LECs (ILECs); as such, they are entitled to obtain CenturyLink UNE-P and resale finished services, which are leased finished services, not “owned facilities”.
44. The fact that such a company may be authorized to provide service to an entire CenturyLink exchange, does not establish that it provides services with its own last mile facilities, as Minn. Stat. § 237.025 requires. It could do so through either resale or UNE-P, which are not “owned” facilities of a CSP, but finished services of CenturyLink.
45. CenturyLink provided no direct evidence that CenturyLink excluded UNE loops or resold lines. While Mr. Brigham acknowledged the existence of UNE-P, he did not attempt to modify the counts to adjust for this. Brigham Aff. ¶16. Mr. Lubeck acknowledges the need for providing last mile facilities, but did not address the matter further. Lubeck Aff. ¶13.
46. CenturyLink’s methodology does not underestimate the presence of cable and wireline competitors. This hypothesis is not supported by facts and it is inconsistent

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<sup>18</sup> *In the Matter of Requests for Service in Qwest’s Tofte Exchange*, MPUC Docket No. P-421/CP-00-686 Order issued January 17, 2006 (Following a citizen complaint, an appeal by CenturyLink of the Commission’s Order to the Court of Appeals, and a contested case proceeding, CenturyLink proposed to construct facilities to an unserved location in the Tofte exchange, upon payment by prospective subscribers of an “up-front” fee of approximately \$4,800 each, so long as at least fifty residents agreed to the fee (a total charge of \$240,000). The residents declined the offer).

with the law to the extent it seeks to eliminate cost as a factor having any relevance to whether a household can choose voice service from a CSP. CenturyLink's methodology overestimates rather than underestimates the presence of cable or other wireline CSPs.

47. The Commission finds that, as to "other wireline" providers that provide UNE-P or wholesale resale lines in part or all of an exchange, CL did not remove those line counts from the number of households CenturyLink claims to be CSP-served.

**d. It Is Inaccurate To Assume, As CenturyLink Does, That A Household Not Served by CenturyLink Is Served by A CSP.**

48. CenturyLink contends every household not served by CenturyLink must be served by a CSP.

49. On page 19 of its Initial Brief, CenturyLink crafted a chart listing census counts of households in certain exchanges and the corresponding CenturyLink line counts<sup>19</sup> in those exchanges. CenturyLink did not subtract lines not served by a CSP.

50. CenturyLink's witness explained, however, that CenturyLink's porting records suggest a material percentage of CenturyLink numbers are ported out to providers who do not qualify as CSPs.

51. CenturyLink's counts of households served must be reduced by that percentage, to make the chart more closely correspond to the testimony of Mr. Lubeck in, for example, his AL-4 or AL-10.<sup>20</sup>

**e. The Commission Should Not Adopt CenturyLink's Proposal to Aggregate Estimated Competitive Wireless and Wireline "Coverage."**

52. The Center for Disease Control's 2015 survey, which found that almost half of Minnesota households use both wireless and landline phones, meaning that, for these households, these two services are not substitutes, but complementary.

53. CenturyLink appears to suggest that the Commission can aggregate estimate counts of wireless and wireline lines, as though they are used in a mutually exclusive

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<sup>19</sup> The chart also erroneously manipulates the denominator of the fifty percent test for Cook, Tofte and Grand Marais, which, as discussed above and in the Department Initial Brief at 21-22, the Department opposes, as an adjustment not supported by facts.

<sup>20</sup> These numbers, of course are based on CenturyLink's rounding up approach, which is a second reason for the Commission not to rely on them.

manner, with some households having one type of service, and other households the other, but when added together, the sixty percent test could be met.

54. Not only would such a methodology be inconsistent with the CDC study, it invites abuse of the statutory requirement that, to be a CSP, wireline providers must deliver service to a majority of households.
55. Especially in rural areas, it is important to avoid “double-counting” certain households, who may have two or more competitive services, such as a wireless phone for use when away from home, as well as a home landline, while other households -- those that are more rural and expensive to serve -- have neither service available as a competitive option, but are limited to CenturyLink’s “provider of last resort” landline service.
56. It is unclear whether CenturyLink is suggesting that the Commission attempt to aggregate wireline and wireless competition for purpose of the sixty percent test; but, in any event, such an effort cannot be reliably undertaken on the present record.

**f. CenturyLink Knowingly Proposed the Commission Mis-Apply Form 477 Data.**

57. CenturyLink did not respond to the concern identified by Ms. Gullikson in her Affidavit, in which she demonstrated that CenturyLink rejected a prospective subscriber’s request for CenturyLink broadband service, and stated to a prospective customers that Form 477 data does not reliably show where service is available.
58. The Department recommends and the Commission agrees that the Form 477 data does not reliably show where broadband service is available.

**D. CENTURYLINK’S INADEQUATE SUBSCRIBER NOTICE.**

59. The Notice provided by CenturyLink to its subscribers informing them of this proceeding and its impact upon them, in the view of the Department, was a misleading and deceptive description of the impact subscribers will experience in those areas where its Petition is approved.
60. The notice to customers stated: “If the Commission approves the application, CenturyLink may raise its local service rates by a maximum of \$2.00 per month after January 1, 2018, and by an additional \$2.00 per month after January 1, 2023.”
61. While it is appropriate for customers to know the impact of the Commission’s Orders, for CenturyLink to provide notice at this stage of the proceeding, or later in this

proceeding, would not be adequate to allow customers to provide input to the Commission before it reaches its decision.

62. The Department recommends, and the Commission agrees, that for any exchange where the Commission finds that CenturyLink has met its burden to satisfy the statutory criteria to qualify for market regulation, CenturyLink should be held to what it has provided in its notice to customers on how they will be affected upon such approval.

**E. THE MODELING PROVIDED BY MR. NELSON SHOULD BE VIEWED AS AN UPPER BOUND.**

63. CenturyLink looked solely at one of 15 frequency bands licensed by Verizon and/or AT&T in the State of Minnesota. CenturyLink offered no analysis to suggest that other frequencies are even sufficient to provide a signal. CenturyLink said that other companies offer service in these areas using different frequency bands as well, but did no analysis for any other company or frequency band to support any inference that if these companies' services were analyzed, it could have impacted his conclusions.
64. Mr. Legursky recommended that the modeling used by Mr. Nelson be viewed as an upper bound since no explanation was provided for selection of model inputs and whether the purpose of the model is consistent with the purpose of the Commission in this proceeding.
65. CenturyLink appears to attempt to respond to Mr. Legursky, arguing that the coverage analysis from the FCC Form 477 wireless information is "conservative" in a number of respects.
66. CenturyLink said that the coverage analysis from the FCC Form 477 information is "conservative" because it analyzes the area in which wireless *data* services are available through a wireless network." This argument is not supported; that is, CenturyLink provided no factual information on wireless data services to analyze or support their use in any significant way.
67. Second, CenturyLink said that the coverage analysis from the FCC Form 477 information is "conservative" because, while the speed available from such a network can vary, "it is generally agreed that a wireless network offers many multiples of the speed required for a voice call. It *stands to reason* that maps depicting such coverage understate the coverage available for a voice call." (emphasis added.)
68. There is no support for this argument in CenturyLink's testimony.

69. “Speed” is only one aspect of the characteristics of a voice call. The most significant characteristic is “delay.” Voice telephony is very sensitive to any delay in the network. The high speeds are used by data, video and audio (which is music, as opposed to voice) to carry the faster signals (more bandwidth) required for them. These services can all be buffered for multiple seconds if required, as in the case where a phone moves through a ‘dead area’ caused from multipath reflections. When this occurs on a voice call, the call may drop (or the user may hang up as they hear nothing and think the other person has dropped or hung up.)
70. Other services (video, data, and audio streaming) solve this problem by putting several seconds of music, for example, in memory (a buffer) before they start playing. The data can come in bits and pieces and no problems occur unless the buffer “runs dry.” Voice cannot do this. It must transmit in “real time.” The signal must be continuously delivered to the receiver as it is spoken by the sender – it cannot be buffered for seconds before being transported across the network.
71. Higher speed provided cannot be used as a factor to support the idea that CenturyLink’s analysis is “conservative.”
72. CenturyLink said that CenturyLink’s wireless coverage analysis is “conservative” because “the lowest coverage in any wire center is 94%, well above the standard in the Statute.” This is inaccurate. The Nelson First Affidavit at Table 5 shows many exchanges well below 94 percent as calculated by the model, and many were well below 60 percent, both indoors and outdoors. Mr. Nelson’s analysis shows the 94 percent estimate to be inaccurate.
73. CenturyLink said that CenturyLink’s coverage analysis information is “conservative” because Mr. Nelson’s study, which describes the availability of wireless service in the 800 MHz frequency, one of fifteen frequencies available to provide service in Minnesota, is, as CenturyLink characterizes it, “decidedly conservative.”
74. This is not an accurate characterization. Mr. Nelson obtained publicly available information from the FCC regarding wireless voice providers in Minnesota. He noted that, in several frequency bands, the FCC grants licenses to commercial providers on an area-wide basis, and does not require that providers report individual transmit locations. The Broadband Personal Communications Service (PCS) (1800/1900 MHz range) and Advanced Wireless Services (AWS) (1700/2100 MHz range) are examples of spectrum for which providers can obtain area-wide licenses from the FCC. Thus, location-specific technical information on individual cell sites in these bands is not available in publicly-available federal databases. Nelson First Affidavit

at 6. For this reason, the frequencies for the available licenses in Minnesota studied by Mr. Nelson are at or above the 800 MHz bands.<sup>21</sup> Lubeck First Affidavit, Table 1.

75. This means that most, if not all, of the 15 frequencies to which the CenturyLink Initial Brief refers at 21 are in the same band or in the higher 1700/1900/2100 MHz bands.
76. CenturyLink's evidence did not provide the exact locations of any towers that would support those additional frequencies, but the tower locations can generally be inferred to be the same as the locations of the towers Mr. Nelson studied because municipalities, which have zoning authority and control of rights of way, typically require carriers to "reuse" towers, often resulting in multiple carriers using the same towers.<sup>22</sup>
77. It appears that at least some of the additional frequencies available to consumers would be provided from the same towers as were studied by Mr. Nelson. The Department said that two conclusions can be drawn from this set of facts: (1) if the additional carriers use the *same* towers at the *same* frequency, 800 MHz, no additional coverage can be assumed; and (2) if the additional carriers use the *same* towers at the *higher* frequency bands, then coverage from the "unstudied" carriers is less than calculated by Mr. Nelson's model, because RF propagation is better at lower frequencies – the frequencies used by Mr. Nelson in this model.<sup>23</sup>

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<sup>21</sup> The only exception is two lower 700 MHz bands. Lubeck First Affidavit, Table 1. These bands are spectrum that "recovered" when broadcast TV went to digital, which are shared with public safety users. While the licenses have been purchased, little of that spectrum is in commercial use.

<sup>22</sup> For example, *see* the city of Edina, Minnesota Ordinance, Section 34-70 Location and screening, 2E of the Edina Ordinance states: "It is the intent of this provision to encourage collocation of telecommunications facilities on the same tower or on existing buildings or other structures thereby reducing the number of towers in the city.") published at:

[www.municode.com/library/mn/edina/codes/code\\_of\\_ordinances?nodeId=SPBLADERE\\_CH34TE](http://www.municode.com/library/mn/edina/codes/code_of_ordinances?nodeId=SPBLADERE_CH34TE)

*See also*, the city of Bloomington, Minnesota ordinance, which is similar: Chapter 19: Zoning, Article V Performance Standards, Section 19.63.05 Towers, (2)(c)(1) states: "1) A proposal for a new commercial wireless telecommunication service tower shall not be approved unless the City Council finds that the telecommunications equipment planned for the proposed tower cannot be accommodated on an existing or approved tower or building within a one mile search radius (one half mile search radius for towers under 120 feet in height, one quarter mile search radius for towers under 80 feet in height) of the proposed tower due to one or more of the following reasons..." <https://www.bloomingtonmn.gov/selected-ordinance-provisions-pertaining-towers>

<sup>23</sup> CenturyLink Response to DOC IR No. 57 (CenturyLink stated that, "[i]f all other parameters at the cellular sites were equal, such as antenna type, antenna height, transmit power level, etc., it would be expected that higher frequencies would not propagate as well as lower frequencies (i.e., the coverage would not be as good), based on the principle of free space loss.)



78. The only circumstance where coverage could be greater than shown in Mr. Nelson's study would require cell towers to be at locations that the ones studied are *not* and that they serve an area that is now not served. Given municipal ordinances and the fact that towers tend to be located very close to one another for business reasons, this is unlikely to occur.<sup>24</sup>
79. The Commission finds that Mr. Nelson's study was *not* "decidedly conservative" and the CenturyLink other coverage analysis based on Form 477 data is neither conservative nor reliable.

## II. SUMMARY

80. The Commission to find that the statutory criteria are satisfied in a significant number of exchanges,
81. CenturyLink has not met its burden to show that the competitive criteria of Minn. Stat. § 237.025 subd. 4 have been met in each of these 109 exchanges is on CenturyLink,
82. The Department recommends that, in light of the many errors, the Commission not approve the Petition in exchanges that either do not meet or marginally meet the criteria of Minn. Stat. § 237.025.
83. With respect to exchanges in which CenturyLink attempted to support its petition based on the cable franchise in those exchanges, where CenturyLink could have provided actual evidence but instead assumed entire census blocks are served based on CenturyLink's "rounding up" methodology, the Commission finds that the statutory criteria have been satisfied in larger, more dense, urban exchanges where the Commission is confident that cable franchisees provide service throughout the exchange,
84. The Commission finds that the statutory criteria have not been satisfied as to exchanges where the Commission is not confident that the criteria are satisfied because competition is less likely to be available to 60% of the household in the exchange. These are the less densely populated and rural areas of CenturyLink's exchange service areas.

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<sup>24</sup> A first tower constructed is typically put in the best possible location; the second typically would not be as good. Subsequent carriers are trying to serve the same customers in the same locations with the same terrain. They have two choices: build new towers in second choice locations or "attach" to existing towers in prime locations.

85. The Commission adopts the Department's Recommendation as to the Following issues

- **The 50 Percent Test Numerator:**

1. Should CenturyLink have included, as CenturyLink-served households, the lines it sells to farmers and other home business operators who choose to subscribe only to a business line. *[DOC Recommendation: Yes, all households were to be included for any voice service provided by CenturyLink]*
2. Should CenturyLink have included, as CenturyLink-served households, households served by CenturyLink UNE-P or Resale Lines? *[DOC Recommendation: Yes]*
3. Has CenturyLink satisfactorily explained the differences between Messrs. Brigham and Lubeck's count of households served by CenturyLink? *[DOC Recommendation: No]*

- **The 50 Percent Test Denominator:**

4. In four wire centers can the statutory term "household" be interpreted to mean "housing unit," such as a vacant property, cabin or other temporary structure. *[DOC Recommendation: No]*
5. In four wire centers is there evidence to show that the count of CenturyLink-served households should be corrected as CenturyLink proposes, by adding to "total households" a percentage that that assumes that temporary occupants of housing units purchase CenturyLink service as frequently as households or as the Department proposes by reducing the numerator to remove non-households? *[DOC Recommendation: The numerator should have been adjusted by removing non-households that are receiving service. The denominator is set by law..]*

- **The 60 percent numerator - Wired**

Did CenturyLink limit wireline CSP-served households consistent with Minn. Stat. § 237.025 subd. 1 (a)(2), to include only households served by a CSP, where a CSP is defined as a provider of local voice service who owns a substantial proportion of the last-mile or loop facilities delivering service to a majority of households in an exchange service area

6. Voice Service: Do all competitive providers identified by CenturyLink offer voice service to all the households that CenturyLink counted in each exchange service area? *[DOC Recommendation: No. CenturyLink did not demonstrate that it included in the numerator only companies that offer voice service to all households in each exchange service area.]*
7. Facilities Ownership: Can the phrase, “owns...facilities” in Minn. Stat. § 237.025 subd. 1 (a) (2) be interpreted to mean “leases...finished services”? *[DOC Recommendation: No.]*
8. Facilities Ownership: Does the evidence show that CenturyLink excluded from “competitor-served households” all households served by a CLEC that can provision in whole or part using leased UNE-P and resale finished services owned by CenturyLink? *[DOC Recommendation: No. CenturyLink did not show that it excluded finished services, which inflated “competitor-served households” and was further inflated rounding up from “one” to “all” households in a “served” census block; it included all households in those blocks without regard to whether the CLEC or CenturyLink owns the available loop facilities].*
9. Deliver Service: Did CenturyLink include only households to which CSP facilities are available to enable the customer to choose the CSP service? *[DOC Recommendation: No. CenturyLink did not determine if service could be delivered; where a competitor delivered service to one household in a census block, CenturyLink rounded from “one” to “all” households in the census block, without regard to the competitor’s ability to deliver service.]*
10. To a Majority: Did CenturyLink exclude “competitor-served households” where a wireline provider does not serve a majority of households in the exchange? *[DOC Recommendation: No. CenturyLink inflated “competitor-served households” by rounding up from “one” to “all” households in a “served” census block; it then aggregated “competitor served households”(cable, other wireline, possibly wireless) served by companies that, according to this method, serve only a minority of households.]*

- **The 60 Percent Test Numerator – Wireless**

11. Deliver Service: Did CenturyLink include only households to which CSP facilities COULD deliver voice grade service indoors if requested to do so? *[DOC Recommendation: No. CenturyLink would like the Commission to approve those*

*exchanges where 60% of the households have the ability to receive an outdoor signal.]*

12. “Marginal” Wireline Exchanges. Should the modeling provided by Mr. Nelson be viewed as an upper bound? *[DOC Recommendation: Yes.]*

- **The 60 Percent Test Denominator – Wireless**

13. Is the denominator of the sixty percent ratio understated in the Comstock and Nashwauk exchanges? *[DOC Recommendation: Yes.]*

- **The 60 Percent Test – Other**

14. Has CenturyLink provided evidence to show why competition should be found in exchanges for which it receives CAF II subsidies to build facilities to unserved locations? *[DOC Recommendation: No.]*

15. Did CenturyLink knowingly propose that the Commission mis-apply Form 477 information regarding unserved wireline census blocks to inflate the number of CSP-served households? *[DOC Recommendation: Yes.]*

- **Customer Notice:**

16. Should CenturyLink be held to the terms of the disclosure it provided in its notice to customers as to how customers will be affected upon any approval of the Petition in any exchange? *[DOC Recommendation: Yes.]*