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June 26, 2002

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, DC 20554

Ex Parte: Federal-State Joint Board on Universal Service, CC Docket No. 96-45

Dear Ms. Dortch:

On April 10, 2002, Verizon submitted comments in response to the Commission's NPRM seeking comment on issues from its *Ninth Report and Order* remanded by the United States Court of Appeals for the Tenth Circuit. The *Ninth Report and Order* established a federal high-cost universal service support mechanism for non-rural carriers. In its comments, Verizon demonstrated that urban and rural rates are "reasonably comparable" today and that current levels of universal service support are "sufficient." Verizon showed how these observations regarding local rates could be used to support a cost benchmark for identifying which states need support for universal service.

A number of commenters agreed with Verizon's conclusions that there is no need to make wholesale changes to the non-rural support mechanisms.[1] However, in order to assist the Joint Board members and their staff, Verizon is submitting additional data and explanations of its analysis supporting the existing 135% cost benchmark.

First, contrary to the comments of some parties, the 10th Circuit Court of Appeals did not find that the Commission's high cost funding mechanism was unlawful. Rather, the Court required the Commission to define the terms "reasonably comparable" and "sufficient" more precisely in a way that can be reasonably related to the statutory principles, and then to assess whether its funding mechanism will be sufficient for the principle of making rural and urban rates reasonably comparable.

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[1] *See, e.g.,* Comments of AT&T, Florida Public Service Commission.

The Commission has used the concept of "Metropolitan Statistical Areas" ("MSAs") to distinguish rural from urban areas for several purposes, such as applying the health care provisions of section 254(h), implementing pricing flexibility, and licensing cellular carriers.[2] Thus, "rural" areas should be defined as non-MSAs, similar to the current definition of "rural area" in section 54.5 of the Commission's rules. Since the normal understanding of the term "urban" would exclude suburban areas within MSAs, the Commission should define "urban" areas as cities or Census Bureau-defined urban areas with populations of at least 50,000 within MSAs. This would be consistent with the Commission's health care rules, which define the "nearest large city" as a city with a population of at least 50,000.[3]

In determining the standard for "reasonably comparable" rates between urban and rural areas, the Commission should first examine the rates that are charged for basic telephone service to determine how much variation actually occurs between such areas. There is substantial evidence to support a conclusion that local service rates are reasonably comparable between rural and urban areas today, more than two years after the Commission adopted the current non-rural support mechanism.

In February 2002, the General Accounting Office released a study that examined the local service prices for rural (non-MSA), suburban and urban areas based upon a survey of state public utility commissions conducted in 2001.[4] An examination of the data collected by the GAO demonstrates that local service rates are reasonably comparable between rural and urban areas today. Specifically, when the mean and standard deviations for each of the three geographic areas are compared, it can be seen that local service prices are very close, with many high cost rural areas having lower prices than low cost urban areas.[5]

	Residential Mean	**Residential SD**
Central city	$14.79	$5.31
Suburb	$15.00	$5.39
Non-MSA	$14.76	$5.40

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2 *See* 47 C.F.R. §§ 54.5; 69.703, 22.909(a).

3 *See* 47 C.F.R. § 54.605(c).

4 General Accounting Office, Telecommunications – Federal and State Universal Service Programs and Challenges to Funding, GAO 02-187 (released February 4, 2002) ("GAO Report").

5 Attachment 1 explains how Verizon calculated the mean and standard deviation from the GAO data.

Since the vast majority of rates fall within two standard deviations of the mean (*i.e.*, a 95% confidence interval), the GAO Report implies that most residential customers pay, on the high side, no more than $26.00, or $11.00 higher than the mean. Despite this variation in basic service rates, the nation still has a telephone subscription rate of 95.1 percent; up from approximately 93% on the date the 1996 Act was adopted.[6] Because the existing rates have achieved high telephone penetration rates and general comparability among urban, suburban and rural areas, they are consistent with the principles of Section 254. Since the vast majority of rates fall within two standard deviations of the mean, the Commission should adopt a threshold for "reasonably comparable" as rates in urban and rural areas that are within two standard deviations, or approximately $11.00, of each other or of the national mean.

Further, because the GAO Report demonstrates that rural and non-rural local service prices remain reasonably comparable under the non-rural high cost mechanism adopted in the Ninth Report and Order, Verizon submits it is reasonable to conclude that the Commission's mechanism which provides federal support for states with average cost levels exceeding a benchmark also has provided sufficient support to enable state regulatory agencies to maintain reasonably comparable rural and urban local service prices.

Since the purpose of the Commission's benchmark approach is to identify states that need federal support to achieve reasonably comparable urban and rural rates, the benchmark should reflect the range of "reasonably comparable" rates. If a state has above-average per-line costs, it will tend to have more high cost rural areas and less ability to maintain rural rates that are reasonably comparable to the nationwide average than a state with average costs. Providing federal support to above-average cost states will promote their ability to meet the statutory objectives and prevent average or low-cost states from using rate structure changes in rural areas to create an artificial need for more federal support.

Using the rate comparison as a guide, the Commission should establish a cost benchmark based on two standard deviations from the nationwide average cost per-line.[7] This would reflect the range of reasonably comparable rates as well as the fact that the nationwide average rate is already artificially low and could be raised without adversely impacting telephone penetration rates. In the Commission's proxy model, the nationwide average cost is $23.35, and the standard deviation is $3.74.[8] The average plus two standard deviations would be a cost of $30.83. This is approximately 132 percent of the average. This is approximately the level of the Commission's current 135 percent benchmark.

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6 *See* Telephone Penetration Rate (rel. Feb. 2002), *available at* http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/subs0701.pdf.

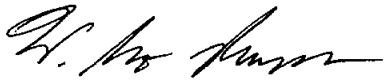
7 *See* Attachment 2 for derivation of the mean nationwide average cost per line and standard deviation. *See also*, Updated FCC Cost Spreadsheets, Tab S1 (rel. Jan. 20, 2000), *available at* http://www.fcc.gov/wcb/tapd/hcpm/wcsupport.xls.

8 Verizon's Comments filed on April 10, 2002, stated that the standard deviation was $3.75 rather than $3.74. The latter number more correctly reflects rounding, and Attachment 2 shows how Verizon developed the $3.74 standard deviation using data from the FCC's proxy model.

For this reason, the Commission should retain the existing benchmark as a method of identifying states with costs that are more than two standard deviations from the mean. This will target support to states that need federal assistance in maintaining rates in rural areas that are within two standard deviations from the rates in urban areas in the same state or in other states. The Commission's high cost support mechanisms have always provided a percentage buffer before states will be eligible for high-cost support.[9] A state with per-line costs that are more than 135 percent of the average will have more difficulty than others in maintaining basic telephone rates in urban and rural areas within two standard deviations of the nationwide average. A 135 percent benchmark also would serve the important policy objective of keeping the fund size close to the current level and avoiding further pressure on the universal service contribution assessment that is passed along to consumers.

Pursuant to Section 1.1206(a)(1) of the Commission's rules, and original and one copy of this letter are being submitted to the Office of the Secretary. Please associate this notification with the record in the proceedings indicated above. If you have any questions regarding this matter, please call me at (202) 515-2530.

Sincerely,



W. Scott Randolph
Director - Regulatory Matters

Attachments

cc: Katherine Shroeder
Eric Einhorn
Diane Law Hsu

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9 Prior to the current universal service fund, which has a 135 percent benchmark, the Commission's high cost fund provided support only for carriers that had costs more than 115 percent of the nationwide average cost per loop (NACPL), with increasing amounts of support for carriers with costs above higher benchmarks. *See NPRM*, n.72.

Attachment 1

Development of Mean and Standard Deviation Based Upon GAO Data

The data included in the GAO report show that the local service rates in different areas are reasonably comparable. The rates have similar mean and variations around the mean as measured by the standard deviation. The single line business rates are higher than the residential rates but they are also similarly higher in all areas.

The GAO Report assigns each sampled area of a state into one of the following three categories: Central city, Suburb, and Non-MSA. Two rate data points are provided for each area, one for Residential service and the other for Single Line Business service.

For deriving the mean rate for each area, the simplest approach may be to separate the rate data into the three categories and then calculate the mean. However, this is problematic since the number of observations in each category is not the same. In addition, as the number of samples from each state is also not the same, it further increases the problem of sampling bias.[1] Ideally; the mean should be independent of the sample size. One way of solving this may be to pick only equal number of observations in each category from each state. However, because selecting or leaving out observations will impact the results, this is not a preferred method. Another method may be to calculate a weighted average instead of a simple average. But, the GAO data lacks information about the number of lines served in each area, so Verizon was unable to use that method.

To overcome the problem of different sample sizes, Verizon used an alternative approach that makes use of the data characteristics. For any given state, the rates for any of the three categories are found to be very similar. The variation in rates in the data is mainly due to variation across states. Verizon calculated the mean rate in two steps. First, the average rate in each state for the three categories was calculated (see Appendix). Although some small difference in sample size still remains because some states do not have non-MSA or suburban areas, this provides a much closer number of observations in each category. Verizon then took the average of these observations by each category to arrive at an average rate in each category.

The standard deviation is the most commonly used measure of variation around the mean and Verizon also used that measure in its analysis. The nearly equal number of observations that were developed in the two step procedure to calculate the mean is also useful in calculating the standard deviation. This is because the standard deviation is even more susceptible to change with differences in the number of observations. For calculating the standard deviation, Verizon started with the average rate in each state found in the first step of calculating the national average. Next, the standard deviation of these observations was derived. The advantage of this procedure is that since the number of states is fixed, the number of observations we use for calculating the standard deviation is independent of how many areas in a state are sampled.

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[1] Generally, the GAO study sampled a total of 9 observations (3 observations each for Central city, Suburb and non-MSA areas) in every state but the numbers vary among various states. In all, there are 140 observations for Central city, 132 observations for Suburb and 136 observations for non-MSA areas.

Table 1 shows the result of calculating the mean and standard deviation using the two step process. The mean and the standard deviation for the three area categories are quite similar. While the mean single line business rates are higher than the mean residential rates they do not differ much across the three area categories.

Table 1: Mean Rates and Standard Deviation

	Residential Mean	Residential Standard Deviation
Central city	$14.79	$5.31
Suburb	$15.00	$5.39
Non-MSA	$14.76	$5.40

The rates in the table below are the state average of the rates in each state calculated using the data found in the GAO report. A few states do not have rates for Suburb or Non-MSA or both. This is not a sampling problem since it is likely that the missing data is due to absence of such areas in the concerned states.

State Average Rates

	Central City	Non-MSA	Suburb
State	**Residential Rate**	**Residential Rate**	**Residential Rate**
Alabama	$16.18	$15.82	$16.21
Alaska	$ 9.70	$17.42	
Arizona	$13.18	$12.91	$13.18
Arkansas	$15.38	$14.76	$14.44
California	$10.69	$12.62	$13.87
Colorado	$14.91	$14.85	$14.91
Connecticut	$13.53	$10.53	$13.00
Delaware	$11.29	$11.62	$11.29

	Central City	Non-MSA	Suburb
State	**Residential Rate**	**Residential Rate**	**Residential Rate**
District of Columbia	$12.78		
Florida	$10.70	$ 9.26	$ 9.80
Georgia	$14.85	$16.91	$14.85
Hawaii	$14.40	$13.45	
Idaho	$17.46	$19.67	$17.46
Illinois	$11.84	$15.25	$18.18
Indiana	$13.16	$15.92	$12.92
Iowa	$12.33	$ 9.64	$12.33
Kansas	$14.00	$14.60	$14.18
Kentucky	$17.24	$14.16	$16.00
Louisiana	$12.57	$13.47	$12.08
Maine	$16.91	$16.42	$16.48
Maryland	$15.43	$15.01	$15.34
Massachusetts	$17.34	$17.34	$17.34
Michigan	$43.95	$33.85	$43.95
Minnesota	$14.23	$13.42	$14.06
Mississippi	$18.66	$17.64	$16.32
Missouri	$10.06	$ 9.91	$10.06
Montana	$16.73	$16.73	$16.73
Nebraska	$17.83	$17.72	$17.50
Nevada	$ 9.90	$10.53	$ 9.90
New Hampshire	$15.30	$12.32	$14.06

	Central City	Non-MSA	Suburb
State	**Residential Rate**	**Residential Rate**	**Residential Rate**
New Jersey	$ 7.94		$ 7.70
New Mexico	$10.66	$11.44	$10.66
New York	$16.29	$13.28	$17.19
North Carolina	$12.41	$11.28	$11.98
North Dakota	$17.69	$16.60	$17.69
Ohio	$14.85	$14.84	$14.52
Oklahoma	$13.17	$10.85	$13.17
Oregon	$12.80	$13.01	$12.73
Pennsylvania	$13.12	$ 9.17	$11.95
South Carolina	$15.59	$12.33	$14.73
South Dakota	$18.00	$16.28	$18.00
Tennessee	$11.90	$ 7.80	$11.72
Texas	$ 9.51	$11.40	$ 9.75
Utah	$11.03	$11.85	$11.03
Vermont	$24.55	$24.77	$24.55
Virginia	$13.51	$12.40	$13.99
Washington	$12.50	$12.88	$12.88
West Virginia	$15.00	$15.00	$15.00
Wisconsin	$13.20	$12.17	$16.13
Wyoming	$23.10	$37.55	$23.10

Attachment 2

Verizon used the average cost for each state generated by the FCC synthesis model and the number of switched lines in each state to calculate a national weighted average cost and the standard deviation (see attached table entitled "Standard Deviation Calculation"). To find observations that are outside the normal variations in costs around the mean, Verizon chose a 95% confidence interval, which results in a variation of two standard deviations around the mean. Under that assumption, any costs above the upper limit of mean plus two standard deviations will be considered to have greater than the usual variation expected in the sample. In the present case we find the upper limit to be $30.83.

ATTACHMENT 2 - Standard Deviation Calculation

Nationwide Average	**$**	**23.35**
Standard Deviation	**$**	**3.74**

State	Total Annual Cost	Switched Lines	State Avg. Cost /month	Standard Deviation Calculation
AK	39,121,721	154,647	$ 21.08	$ 797,427.86
AL	881,503,296	2,159,707	$ 34.01	$ 245,477,405.75
AR	322,397,088	960,914	$ 27.96	$ 20,397,220.57
AZ	687,069,425	2,719,294	$ 21.06	$ 14,342,405.84
CA	5,376,966,210	22,285,906	$ 20.11	$ 234,811,352.96
CO	731,463,058	2,651,630	$ 22.99	$ 351,581.50
CT	664,274,741	2,284,859	$ 24.23	$ 1,751,113.68
DC	193,379,223	980,551	$ 16.43	$ 46,919,808.03
DE	150,044,222	559,794	$ 22.34	$ 577,563.60
FL	2,804,034,568	10,610,156	$ 22.02	$ 18,733,807.74
GA	1,140,260,700	4,033,339	$ 23.56	$ 172,989.79
HI	187,153,684	716,211	$ 21.78	$ 1,779,069.35
IA	318,256,059	1,113,218	$ 23.82	$ 248,065.95
ID	170,444,947	528,261	$ 26.89	$ 6,604,139.97
IL	2,016,547,464	7,653,397	$ 21.96	$ 14,893,176.94
IN	975,157,681	3,109,304	$ 26.14	$ 24,090,536.50
KS	396,010,929	1,351,910	$ 24.41	$ 1,515,022.82
KY	683,048,240	1,800,020	$ 31.62	$ 123,116,895.46
LA	768,141,692	2,286,650	$ 27.99	$ 49,267,432.42
MA	1,029,913,942	4,411,630	$ 19.45	$ 67,013,149.44
MD	936,023,446	3,688,106	$ 21.15	$ 17,889,024.07
ME	266,248,725	668,153	$ 33.21	$ 64,892,787.05
MI	1,764,402,594	5,945,915	$ 24.73	$ 11,266,446.04
MN	720,949,683	2,402,305	$ 25.01	$ 6,595,748.90
MO	961,605,317	2,858,071	$ 28.04	$ 62,752,271.98
MS	601,664,053	1,247,567	$ 40.19	$ 353,673,879.06
MT	139,179,630	362,570	$ 31.99	$ 27,047,956.63
NC	1,398,767,938	4,157,819	$ 28.03	$ 91,179,726.24
ND	80,092,129	253,381	$ 26.34	$ 2,263,987.22
NE	278,096,064	808,955	$ 28.65	$ 22,686,619.27
NH	246,855,060	769,880	$ 26.72	$ 8,733,626.90
NJ	1,488,141,115	6,348,573	$ 19.53	$ 92,552,305.48
NM	244,423,526	787,901	$ 25.85	$ 4,923,538.99
NV	296,462,336	1,178,639	$ 20.96	$ 6,739,219.47
NY	2,591,303,225	11,334,782	$ 19.05	$ 209,649,173.98
OH	1,864,022,500	6,204,821	$ 25.03	$ 17,567,279.35
OK	549,403,069	1,733,722	$ 26.41	$ 16,188,438.54
OR	522,600,277	1,852,964	$ 23.50	$ 42,207.03
PA	1,826,321,196	6,837,008	$ 22.26	$ 8,148,917.46
PR	364,088,498	1,083,802	$ 27.99	$ 23,361,221.68
RI	164,437,710	648,885	$ 21.12	$ 3,238,398.40
SC	546,176,234	1,612,240	$ 28.23	$ 38,374,712.81
SD	90,318,224	275,570	$ 27.31	$ 4,322,631.38
TN	956,120,673	2,865,606	$ 27.80	$ 56,810,449.70
TX	3,241,846,530	11,477,745	$ 23.54	$ 393,751.20
UT	274,053,706	1,094,308	$ 20.87	$ 6,743,128.22
VA	1,350,458,619	4,472,486	$ 25.16	$ 14,658,266.18
VT	137,685,502	315,612	$ 36.35	$ 53,355,923.35
WA	858,104,319	3,280,515	$ 21.80	$ 7,921,811.40
WI	823,138,091	2,604,628	$ 26.34	$ 23,188,857.20
WV	348,457,420	813,903	$ 35.68	$ 123,649,328.18
WY	97,461,407	241,197	$ 33.67	$ 25,692,289.89
				$ 2,279,364,089.42
Total	45,564,097,706	162,599,027		
Average/month			$ 23.35	SD $ 3.74

Source: Cost and line count data are from results of the FCC's Hybrid Cost Model, January 20, 2000.