Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Bell Atlantic Telephone Companies	)	CC Docket No. 01-140
Revisions to Tariff FCC Nos. 1 and 11	)	Transmittal Nos. 1373 and 1374
	)	
Verizon Telephone Companies	)	Transmittal Nos. 23 and 24
Tariff FCC Nos. 1 and 11	)	

OPPOSITION TO DIRECT CASE (REDACTED VERSION)

Sprint Corporation hereby respectfully submits its opposition to the direct case filed on July 17, 2001 by Verizon Telephone Companies (Verizon) in support of its proposed rates for DC power for physical and virtual collocation. Despite the volume of material filed, Verizon has failed to demonstrate the reasonableness of the proposed rates. What data have been provided to date confirms that the rates are based on highly questionable assumptions which cause the rates to be significantly inflated. As shown below, Verizon has used excessively high (and unsupported) Engineering, Furnished and Installed (EF&I) and overhead loading factors; based its cost models on inefficient, low-capacity power plants; and has improperly given equal weight to all of its central offices, irrespective of their size or number of collocation arrangements, in computing average power costs.

1. Verizon's EF&I Factor Is Excessive and Inadequately Supported

Verizon has used an EF&I factor (total installed investment divided by total material investment) of 2.7852. In support of that factor, Verizon provided workpapers showing material cost and in-place cost for hardwired digital switching equipment and plug-in units.[1] However, these workpapers show significant (sometimes extraordinary) differences in the ratio of in-place to material cost for what appears to be similar equipment. For example, Verizon's records indicate that the ratio of in-place to material cost for hard-wired digital switching equipment in Rhode Island was [confidential] (that is, labor costs were [confidential] times greater than material cost) and [confidential] for digital switching equipment in Virginia (that is, it cost $[confidential] million to install $[confidential] million worth of switching equipment).[2] The ratio for hard-wired digital switch equipment in the other 11 Verizon states combined was [confidential].

Verizon's workpapers for plug-in units are also suspect. In seven of its thirteen jurisdictions, Verizon's in-place cost for this equipment is equal to its material costs. In the other 6 states, the mark-up is approximately [confidential]%. Verizon has not included an explanation for this discrepancy.

Verizon does not even attempt to explain the basis for its in-place costs or the reason(s) behind the wild variability of the data points. The Commission and interested parties have no way of determining whether this variability is due to booking errors in

[1] See Verizon Attachment 2, Tab 6. Verizon states that it used power-only related investments in the digital switching category, Field Reporting Code 377C (Exhibit A, page 1).

[2] The ratio of in-place cost to material cost is even greater for specific items. For example, Verizon's records show that the in-place cost of a Galaxy Controller in one Washington, DC central office was $[confidential], while the material cost for that equipment was only $[confidential] (an EF&I factor of [confidential]). The EF&I factor for what appears to be the same equipment, in a different central office in Washington, DC, was [confidential].

some of the data Verizon used to derive its EF&I factor, whether its data unreasonably include extraordinary, unusual costs (as opposed to costs typically incurred in the course of a "normal," efficient installation), or whether Verizon is simply inefficient. Verizon does provide pages and pages of printouts from its Detailed Continuing Property Record (DCPR) database which show the material and in-place costs for individual pieces of equipment. However, as the numerator and denominator of the overall EF&I factor are simply the sum of the underlying data point values, the volume of paper filed does nothing to justify the reasonableness of the claimed factor – questionable data inputs yield questionable data outputs.

Rather than simply presenting lump sum input figures for the EF&I factor, Verizon should be required to provide estimates of the engineering and installation dollars necessary to place each component of the modeled DC power plants. Such estimates could be evaluated in relation to the costs incurred by other parties to install similar equipment to help determine whether the costs claimed by Verizon are reasonable.

2. Verizon's Costs are Based On Unrealistically Small and Inefficient Power Plants

The main purpose of a DC power plant is to convert AC (alternating current) electricity supplied by the local electric utility to DC electric power, which is used to run telecommunications equipment. The conversion of AC to DC power is performed by rectifiers, and rectifier capacity is measured in amps. It appears that Verizon has overstated the investment per amp of DC power by basing its cost study models on small, inefficient power plants which are not representative of the plants actually in operation in Verizon's service territories. Larger capacity power plants have greater economies of scale in the production of DC power than do smaller capacity plants. Therefore, the cost per amp in a large-capacity plant is lower than that of a smaller capacity plant. Verizon should be required to recalculate its DC power studies, modeling plants that are representative of those actually in service.

Verizon's cost studies show rectifier amp capacity sufficient to meet current load requirements of the central office plus one spare rectifier. For example, one line of Verizon's cost study shows [confidential] rectifier amps (see Workpaper 1.0, page 3 of 3, line 8, column D). The utilization is shown to be [confidential]% (*id.,* line 9) , which means that the actual productive capacity of the rectifiers is [confidential] amps and that one [confidential] amp rectifier is held as a spare in case a rectifier fails.

It appears that Verizon's cost studies are modeled using power plants averaging about [confidential]productive amps of rectifier capacity.[3] Use of such low-capacity

[3] This [confidential] amp estimate was reached by weighing the productive amp capacities in Verizon's studies for each state by their statewide weighting factors (based

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power plant is unreasonable, given Verizon's largely high-density (major city, major city-high rise, metropolitan, urban and suburban) operating territory. In such operating territories, modeling an average power plant of about 3,000 amps should be closer to actual power plants in operation (and would certainly be more reflective of efficient operating power plant). The highly questionable nature of Verizon's power plant assumptions is highlighted by its cost study for New York. Verizon's power rates in Tariff No. 11 (New York) are based on only a [confidential]-amp plant for the "major cities" and "major cities-high rise" classifications. It hardly seems likely that Verizon's offices in downtown New York City have only [confidential] amps of productive rectifier capacity. Indeed, Sprint has found that offices in the most populous areas can have productive rectifier capacities of as much as 6,000 amps.

To illustrate the dramatic differences in investment per amp between large and small amp capacity central offices, in Sprint's recently stipulated Nevada collocation case,[4] the per amp investment of a 1,000 amp capacity power plant was $424.86, and the per amp investment of a 2,000 amp capacity power plant was $336.35, a difference of 26%. If Verizon's average power plant size is about 3,000 amps as Sprint suspects, the percentage difference in investment could be even greater than this 26%.

Sprint's experience in other collocation proceedings provides additional support for a finding that non-rural central offices tend to have power plants considerably larger

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on investment dollars) for major city, major city-high rise, metropolitan, urban, suburban and rural areas.

[4] *In re Petition of the Staff of the PUC [of Nevada] to Open A Docket to Investigate Costing and Pricing Issues Related to Industry-Wide Collocation Costs Pursuant to the Telecommunications Act of 1996 and the Commission's Regulations,* Docket No. 99-11035, *Order* released May 18, 2001.

than that modeled by Verizon. For example, Sprint-Nevada recently stipulated (*id.*) to a DC power rate of $14.94 per load amp, which reflected average productive amp rectifier capacity of all of its offices[5] of 3,165 amps (and, incidentally, an EF&I factor of 1.66). In another proceeding, Sprint learned through the discovery process that the ILEC used average productive amp rectifier capacity of about 3,000 amps for its metropolitan, urban and suburban areas in that state. Absent a showing by Verizon that its [confidential]-amp power plant model is reasonable, the Commission should require Verizon to recalculate its power rates based on much higher capacity power plants which are (or should be, to maximize efficiency) in use.

3. Verizon's Equal Weighting of All Central Offices Overstates Average Power Costs

In response to the Commission's question regarding inclusion in Verizon's analysis of central offices that lack collocation arrangements (para. 27), Verizon acknowledges (Exhibit C, p. 1) that "power costs are lower, per amp, in high density central offices and higher, per amp, in lower density rural offices." Verizon also supplies data which shows that, as of the date the information was gathered (June 2001), most of its collocation arrangements are in its medium and above offices, with relatively little collocation in small and rural offices (see Table 1 below) – precisely the outcome which is to be expected. (Adjusting the analysis to reflect the number of collocations in each office would likely give even greater weight to the lower cost, high density offices.) Nonetheless, Verizon states (*id*.) that it "did not weight the distribution of costs by the actual offices that currently contain collocation or the number of collocators in each

[5] Sprint-Nevada's territory is mainly in Las Vegas, which has a mix of metropolitan,

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office because the actual distribution of collocation arrangements among central offices changes monthly."

Table 1
Distribution of Collocation in Verizon Offices

Verizon South

	Small	**Medium**	**Large**	**Extra Large**
Total offices*	[Confidential]			
Offices w/collocation*	[Confidential]			
% offices w/collocation	[Confidential]			

Verizon North

	Mjr City	**Metro**	**Rural**	**Suburban**	**Urban**
Total offices*	[Confidential]				
Offices w/collocation*	[Confidential]				
% offices w/collocation	[Confidential]				

*Source: Verizon Attachment 3

By counting each office equally, small offices in Verizon South are accorded a [confidential]% weight, and rural offices in Verizon North are given a [confidential]% weight. In contrast, small offices accounted for only [confidential]% of total offices with collocation in Verizon South and rural offices accounted for [confidential]% of all offices with collocation in Verizon North. Thus, it is clear that by giving each office equal weight, whether it is a small or rural office or an "extra large" office in a major city, and by including the small rural offices that currently do not have collocation arrangements, Verizon overestimates the average power cost per office. Verizon acknowledges that power rates would decline between 4-5% from the proposed levels if it recalculated these rates using the current distribution of collocation (Exhibit C, p. 2). While it may be true that the distribution of collocation arrangements changes over time, it seems reasonable

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urban and suburban areas.

to assume that the degree of collocation will be greater in large urban offices than in small rural offices for the foreseeable future. Therefore, Verizon should be required to adjust its rates to reflect the greater degree of collocation in its less expensive, large urban offices. At a minimum, it should be required to accord lesser weights to small and rural central offices to reflect the relatively few access lines served from such offices.

4. Verizon's Overhead Loading Factors Are Inadequately Supported

Verizon's Attachment 7 fails to provide adequate support for its overhead loadings as it does not provide any detail supporting the cost and price numbers presented. Further, Verizon's response makes no mention of the overhead loadings applied to arrive at its arguably most competitive offering, Digital Subscriber Lines (DSL) services, as required by the Commission (*Order Designating Issues for Investigation*, para. 54).

Although the overhead loading factors which Verizon used were those allowed by the Commission in 1997, it is not at all clear that use of these factors -- computed in a 1993 cost study which Verizon acknowledges is old and incomplete (Exhibit B, p. 1) -- accurately reflects current or future conditions. As Sprint noted in its petition to reject Verizon Transmittal No. 1373, these several-year old overhead loading factors do not reflect efficiencies gained through the successive mergers of the various operating companies that now comprise Verizon (the former New York Telephone, New England Telephone, Bell Atlantic and GTE companies). These predecessor companies asserted that their mergers were justified in large part by cost reductions in the very functions represented by the overhead loading factor.

Verizon's 1.23 and 1.32 overhead loading factors for Verizon-South and Verizon-New York/Connecticut respectively also appear to be overstated compared to the factors used by other ILECs. For example, Sprint Local has consistently used overhead loading factors that range from 1.10 to 1.15 in its cost studies, including Sprint's 1997 federal Expanded Interconnection tariff. Because Verizon has failed to adequately justify the continued use of the 1.23 and 1.32 factors, its proposed power rates must be found to be excessively high.

CONCLUSION

Despite the volume of paper filed in its Direct Case, Verizon has failed to demonstrate that its proposed power rates are just and reasonable. Verizon should accordingly be directed to recompute its power rates using the revised input factors discussed above.

Respectfully submitted,

SPRINT CORPORATION

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