Before the
Federal Communications Commission
Washington, D.C. 20554

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

DECLARATION OF STEVEN E. TURNER
ON BEHALF OF AT&T CORP.

Based on my personal knowledge and on information learned in the course of my duties, I, Steven E. Turner, declare as follows:

1. My name is Steven E. Turner. I head my own telecommunications and financial consulting firm, Kaleo Consulting. My business address is 2031 Gold Leaf Parkway, Canton, Georgia 30114.

2. I hold a Bachelor of Science degree in Electrical Engineering from Auburn University in Auburn, Alabama. I also hold a Masters of Business Administration in Finance from Georgia State University in Atlanta, Georgia.

3. From 1986 through 1987, I was employed by General Electric in its Advanced Technologies Department as a Research Engineer developing high-speed graphics simulators. I joined AT&T in 1987 and, during my career there, held a variety of engineering, operations, and management positions. These positions covered the switching, transport, and signaling

disciplines within AT&T. From 1995 until 1997, I worked in the Local Infrastructure and Access Management organization within AT&T. It was during this tenure that I became familiar with the regulatory issues surrounding AT&T's local market entry, and specifically with issues relating to the unbundling of incumbent local exchange carrier ("ILEC") networks.

4. In 1997, I left AT&T to form Kaleo Consulting. I now consult primarily on regulatory issues related to facilities-based entry into local exchange service and, using financial models, advise companies on how and where to enter telecommunications markets.

5. I have filed testimony or appeared before regulatory commissions in the states of Alabama, Arkansas, California, Colorado, Delaware, Florida, Georgia, Hawaii, Illinois, Kansas, Kentucky, Louisiana, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New York, Ohio, Oklahoma, Pennsylvania, Texas, Washington, and Wisconsin. I have also filed testimony with the Federal Communications Commission ("FCC") regarding Southwestern Bell Telephone Company's ("SWBT") compliance with Section 271 of the Telecommunications Act of 1996 (the "Act"). A copy of my resume is attached hereto as Attachment 1.

I. PURPOSE AND OVERVIEW OF TESTIMONY.

6. The purpose of my testimony is to evaluate Verizon's claimed collocation costs relating to DC power and to explain the errors that Verizon made in developing those costs.

7. As I explain in more detail below, the information provided by Verizon is often unresponsive to the data requests contained in the Commission's *Designation Order*. In fact, Verizon simply fails to provide any responsive data with respect to some of the data requests. For instance, Verizon's cost study contains virtually no support for its material costs even though

that information was directly sought by the Commission's *Designation Order*.[1] Nevertheless, to the extent that Verizon did provide information that is responsive to the Commission's *Designation Order*, I have identified numerous errors in Verizon's cost study that significantly overstate Verizon's new DC Power rates. I have also corrected those errors and have re-calculated Verizon's DC power costs.

8. The errors in Verizon's cost model result in significant overstatements of Verizon's DC power rates. In Part II of this declaration, I explain where DC power costs originate. In Part III, I explain in detail each of the errors in Verizon's cost factors that contribute to its overstated DC power rates. In Part IV, I compare Verizon's DC power rates to those of other incumbent LECs to illustrate the point that Verizon's rates are truly extraordinary. I have also corrected the errors described herein and have re-computed Verizon's cost studies. That analysis is attached hereto as Attachment 2 which shows that Verizon's DC power costs should be no higher than $9.23, $10.49, and $9.42 for Verizon-North, Verizon-New York, and Verizon-South respectively.[2] Rates set at these cost levels would also be more in line with the rates charged by other incumbent LECs. *See* Part IV, *infra*.

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[1] Verizon's Direct Case, Attachment 2 (CC Docket No. 01-140, Transmittal Nos. 1373 and 1374 and Transmittal Nos. 23 and 24, July 17, 2001), includes a significant number of pages, from its DCPR database records, that purport to document Verizon's material costs for various elements. But I was unable to find any correlation between that data and the material investments that Verizon is using to support the rates under investigation in this proceeding. In addition, the actual *material* cost (not installation cost) invoices provided by Verizon appear to be virtually unrelated to the material prices that are under investigation in this proceeding.

[2] Note that these rates are higher than Verizon's original DC power rates, but are significantly lower than the rates that Verizon is now charging for DC power.

II. BACKGROUND

9. DC Power is normally comprised of two main elements: (1) DC Power Distribution and (2) DC Power Consumption. DC Power Distribution is the rate element that recovers the costs for the DC power cabling that is extended from the incumbent's Battery Distribution Fuse Bay ("BDFB") to the collocation arrangements. This DC power cabling consists of pairs of copper cables in protective sheaths to complete a power circuit from the BDFB to the collocation arrangement – one half of this pair is the "battery" or delivery of power and the other half of this pair is the "ground" or return of the power. This pair normally comes in matching pairs for redundancy where one pair will be referred to as the "A-side" power feed and the redundant pair referred to as the "B-side" power feed. This redundancy ensures that if one side fails, power will not be completely cut off to the telecommunications equipment. Finally, the BDFB is simply a large fuse bay or junction point where a large feed of DC power from the power plant is broken down into smaller power units. This piece of equipment is necessary to allow cables from the BDFB to the collocation arrangement (or to the incumbent's telecommunications equipment) to be much smaller (and less expensive) compared to the larger (more expensive) power cables that would be required to transport larger units of DC Power from the power plant to the BDFB. The cables from the BDFB to the collocation arrangement are normally captured in a DC Power Distribution element. The BDFB itself is recovered in the DC Power Consumption discussed below. Carriers that recover DC Power Distribution Costs generally do so through non-recurring rates.

10. The term "DC Power Consumption" suggests that it primarily allows carriers to recover the costs of power that is being used. However, that is not accurate. Virtually all of the DC Power Consumption cost is attributable to the cost of the equipment used to generate, or

stand ready to generate, DC power. Most telecommunications equipment operates on DC power (or direct current power), whereas the power that is purchased from electric utilities is AC power (or alternating current power). Consequently, significant amounts of equipment are necessary for a carrier, like Verizon, to convert AC power to DC power and to provide for uninteruptability and redundancy. That equipment includes: rectifiers (which actually convert the AC power to DC power); batteries (which stabilize the DC power and provide for short-term backup in the event of an AC power failure); controllers and power distribution service cabinets (for managing the DC power elements and distributing the power throughout the central office); and the emergency engine (for providing long-term backup in the event of a lengthy AC power failure). It is the cost of these elements that constitutes the vast majority of the cost of DC Power Consumption and none of these elements is actually "consumed" by usage; instead it is consumed once that capacity is dedicated to the instantaneous, uninterruptible use by assignment to competitive LEC collocation or Verizon installation. The part of DC Power Consumption that is consumed is the AC power that is purchased from the electric utility which is converted into DC power. That part of the DC Power Consumption element, however, is a small portion of the overall cost. DC Power Costs are recovered by carriers through recurring charges, matching recovery to equipment life. Verizon's new DC power rate increases are recurring charges aimed at recovering DC Power Consumption costs.

III. VERIZON OVERSTATES AT LEAST THREE OF ITS COST FACTORS.

11. Verizon's cost studies rely on "cost factors" to account for the costs of providing DC power that are not directly related to its costs of material and labor. In particular, cost factors are applied to Verizon's basic material and labor costs to increase those costs to account for costs associated with their installation, overhead, and other similar costs. If any one of those cost

factors is overstated, Verizon's cost estimates will also be overstated. My analysis of Verizon's cost study demonstrates that it has significantly overstated at least three of its cost factors.

A. Verizon's Rate Increases For DC Power Are Based On Significantly Inflated DC Power Installation Factors.

12. Verizon's DC Power installation factor is significantly overstated, resulting in inflated DC power costs. Verizon's installation cost factor is based on its cost of installing *small* augments to its *existing* DC power plants instead of its cost of installing complete DC power plants. Because there are inherent economies of scale associated with installing an entire power plant that do not exist for a small upgrade (*i.e.* an augment) to an existing power plant, Verizon's installation cost factor is overstated. Applying that overstated installation factor to Verizon's direct costs results in severely inflated DC power cost estimates.

13. There is no question that Verizon's installation factor is based on small augments to its existing DC power plants instead of the costs of complete DC power plants and that the disparity between those costs is extremely large. **[*** Begin Verizon Proprietary ***]**

14.

15.

[* End Verizon Proprietary ***]**

16. In addition to using an improper methodology for computing material installation cost factors, the data used by Verizon to compute those cost factors appears to contain errors. I have identified several instances in Verizon's datasets where individual data points appear to be way out of line with the other data in those datasets. **[*** Begin Verizon Proprietary ***]**

[3] **[*** Begin Verizon Proprietary ***]**

[* End Verizon Proprietary ***]**

[* End Verizon Proprietary ***]** There is no reasonable explanation for this discrepancy, and these types of probable errors in Verizon's dataset result in significantly overstated material installation factors.[5] The bottom line is that Verizon's data upon which its new rates were developed are highly suspect.[6]

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[4] **[*** Begin Verizon Proprietary ***]**

[* End Verizon Proprietary ***]**

[5] **[*** Begin Verizon Proprietary ***]**

[* End Verizon Proprietary ***]**

[6] There are similar probable errors in other datasets used in Verizon's cost studies. **[*** Begin Verizon Proprietary ***]**

(continued)

17. In all events, Verizon's factors that "gross up" material costs to total installed costs, and the errors associated with those estimates are unnecessary. It is very easy to obtain actual installation costs for DC Power. Vendors, such as Lucent – the DC power equipment supplier that Verizon documents as being a primary provider of its DC power equipment – are fully capable of providing (and do provide) not only the material cost for installation jobs that it supplies, but can also provide the installation costs, and other miscellaneous costs, if any, associated with the job. I have personally seen this level of detail for Lucent projects for both AT&T and Verizon.[7] I have provided exactly that type of information for two DC power plants that were installed by AT&T in local central offices in Pennsylvania. *See* Attachment 3.

18. In fact, the Commission's *Designation Order* sought exactly that type of information from Verizon, but Verizon failed to provide it.[8] It is particularly surprising that Verizon failed to disclose these data given that it provided that information to the Pennsylvania Public Utilities Commission.

19. Analysis of the actual installation data that I have obtained from AT&T for two DC power plants in Pennsylvania indicates that a more accurate installation factor for comprehensive DC power plants would be about **[*** Begin AT&T Proprietary ***]**

[* End Verizon Proprietary ***]**

[7] Material items, for example, are detailed down to 4 pieces costing 8 cents.

[8] *Designation Order* ¶ 31 (stating that "Verizon must provide ... bill(s) for the job including the actual costs incurred by Verizon for completing it"). The only invoices Verizon did provide were for *material* cost. Verizon did not provide any support for the translation of these material costs into the in-place costs that are reflected in the DCPR records, as the Commission had required it to do.

[* End AT&T Proprietary ***]**[9] To compute this installed investment factor for these DC power plants, I identified the installation cost as well as other miscellaneous costs associated with the material being installed in those plants and compared those costs to the cost of the installing the entire DC power plants.

20. Applying **[*** Begin AT&T Proprietary ***]** **[*** End AT&T Proprietary ***]** DC power installation factor to Verizon's purported costs for DC Power Consumption – without making any other adjustments – reduces Verizon's DC Power costs from $16.41 to $8.57 per amp for Verizon-North, from $25.32 to $13.22 per amp for Verizon-New York, and from $20.23 to $10.56 per amp for Verizon-South.

B. Verizon's Rate Increases For DC Power Are Based On A Significantly Overstated Common Cost Factor.

21. Verizon applies a common cost factor of 23 percent for the Verizon-South states, 32 percent for New York, and zero percent for the Verizon-North states. Those factors are based on very outdated data. In particular, those factors stem from an evaluation conducted by the Commission in 1997 based on data from incumbent LECs between 1993 and 1997. Much has changed in the telecommunications industry since the 1993 to 1997 timeframe and it would be inappropriate to set DC power rates on a forward-looking basis using data that old.

22. One of the most significant changes in the telecommunications industry since 1997 is the size of incumbent LECs and the scale on which they operate. For instance, Verizon is the product of two mergers that have occurred since 1997 – Bell Atlantic with NYNEX, and

[9] Unfortunately, there is no way to "correct" this factor using the inadequate information provided by Verizon.

then this combined company with GTE. In each of those mergers, Verizon strongly touted the efficiencies that would be derived from the merger of these three companies.

23. In fact, the efficiency gains enjoyed by Verizon as a result of its mergers are partially reflected in the common cost factors that Verizon has sought and obtained from the New York Public Service Commission ("NYPSC"). Back in 1997, the NYPSC established a common cost factor of 15 percent for New York Telephone Company.[10] However, in 2000, when Verizon next filed cost studies in support of its unbundled element prices at the NYPSC, Verizon sought a much lower common cost factor of 11.5 percent. And the administrative law judge's recommended decision in that proceeding recommends a common cost factor for Verizon in New York of 4.75 percent.[11] That administrative law judge specifically found that Verizon's common cost factor should be lowered due to the savings from the Bell Atlantic-NYNEX and Bell Atlantic-GTE mergers. *See* lines 3 and 3.1 of Attachment 4 thereto as compared to line 1, Attached hereto as Attachment 4. In short, much has changed since 1997 that has significantly lowered Verizon's common costs and these savings are not reflected in the common cost factors used in Verizon's cost study.

24. It is also notable that the common cost factors used in Verizon's DC power cost study for Verizon-South and Verizon-New York are significantly higher than those adopted by

[10] State of New York Public Service Commission, Opinion No. 97-2, Case 95-C-0657 (et al.), *Joint Complaint of AT&T Communications of New York, Inc., MCI Telecommunications Corporation, WorldCom, Inc. d/b/a LDDS WorldCom and the Empire Association of Long Distance Telephone Companies, Inc. Against New York Telephone Company Concerning Wholesale Provisioning of Local Exchange Service by New York Telephone Company and Sections of New York Telephone Company's Tariff No. 900*, Opinion and Order Setting Rates for First Group of Network Elements, April 1, 1997, pp. 94-98.

[11] Workpaper Part H, Section 3.11, page 1 of 5 to the Recommended Decision in the New York UNE Proceeding, February 14, 2000. *See* Attachment 4.

the state commissions in any of those states. The table below summarizes the common cost factors that I would recommend that the FCC utilize in setting Verizon's DC Power Consumption rate. These factors are either based on state Commission decisions or are based on the average of Verizon and AT&T's proposed common costs (such as in the case of Massachusetts). In a few instances, data is unavailable and I have instead used the average state common cost factor for the states where values do exist.

State	Verizon Common Cost Used In DC Power Tariff Filing	Verizon's State Common Cost Factor
Massachusetts	0.00	6.33[12]
Maine	0.00	9.01
New Hampshire	0.00	15.00[13]
Rhode Island	0.00	9.01
Vermont	0.00	4.84[14]
New York	32.00	4.75
District of Columbia	23.00	9.01
Delaware	23.00	10.00[15]
Maryland	23.00	12.00[16]
New Jersey	23.00	10.00[17]
Pennsylvania	23.00	8.96[18]
Virginia	23.00	8.01[19]
West Virginia	23.00	10.20[20]

[12] Average of Verizon proposed rate in Massachusetts of 8.03 percent at AT&T/WorldCom proposed restatement of Verizon studies rate of 4.63.

[13] *Petition for Approval of Statement of Generally Available Terms Pursuant to the Telecommunications Act of 1996*, New Hampshire PUC Docket DE 97-171, Order No. 23,738, pages 92-93 (July 6, 2001).

[14] *Investigation into New England Telephone and Telegraph Company's (NET's) tariff filing re: Open Network Architecture, including the unbundling of NET's network, expanded interconnection, and intelligent networks in re: Phase II, Module 2 – Cost Studies*, Vermont PSB Docket 5713, Order of 2/4/2000, at pages 50-53.

[15] Docket No. 96-324, Findings, Opinion & Order dated 7/8/97 (page 21, ¶ 36).

[16] Case No. 8731, Phase II, Order No. 73707 dated 9/22/97 (page 40).

[17] Docket No. TX95120631, Telecommunications Decisions & Order dated 12/2/97 (page 75).

[18] MFS III Final Opinion and Order, 8/7/97.

[19] Case No. PUC970005, Final Order dated 4/15/99 (page 6).

[20] Case No. 96-1561-T-PC, Final Order dated 4/21/97 (page 133, ¶ 44).

C. Verizon's Rate Increases For DC Power Are Based On Significantly Overstated Annual Cost Factors.

25. Verizon assumes that Digital Switching Annual Cost Factors ("ACFs") should apply with equal force to DC power investments. That assumption is wrong. The equipment that DC power supports for collocation is generally digital circuit equipment (*i.e.*, transport equipment), not switching equipment. Thus, Verizon should not have used the Digital Switch (Account 2212) ACFs, but instead should have used the Digital Circuit Other ACFs.

26. When an incumbent LEC conducts a cost study for a network element, the power investment that is used to support the asset being studied is included in the total investment for the element by applying a power investment factor or ratio to "gross up" the telecommunications equipment investment to include a pro rata share of the DC power plant investment. As such, the power investment has the same ACF applied to it as would be applied to the underlying investment. In other words, if dedicated transport were being studied, the power investment supporting the dedicated transport elements would receive the circuit ACF; if switching were being studied, the power investment supporting the switching elements would receive the switching ACF.

27. Collocation is somewhat different in that the recurring rate for DC power is considered separately and there is no distinct ACF for DC power investment. However, if the same principle discussed above for network elements is applied to collocation equipment, the circuit ACF would be applied to DC power supplied to collocation equipment because virtually all collocation equipment is circuit based.

28. Verizon rejects that analysis stating: "Classification of the power equipment in the 377C Digital Switching account is appropriate because the predominant use of that

equipment is to supply power to the central office switch."[21] That statement is wrong. Power plants are placed to support the entirety of the central office including switching equipment, transport equipment, peripheral equipment, and others – it is not just switching. Moreover, the factors that lead to the development of the annual cost factor such as depreciation life, maintenance cost, and the like lead to much lower costs than exist for switching, because the depreciation life for power equipment is much longer than switching and because the maintenance work for power equipment is much lower than for switching. In short, Verizon has selected the higher of the two cost factors that are available without giving any attention as to how the power equipment is used or which factor more closely approximates its cost structure. Moreover, if Verizon ignores the fact that the vast majority of the equipment used by collocators is transport equipment. When that is accounted for, the appropriate factor to use is the transport ACF.

29. This problem, caused by Verizon's selection of the Digital Switching ACFs, is easily illustrated by looking at depreciation lives. Verizon documents reveal that the Digital Switching Depreciation ACF is calculated using a nine-year asset life.[22] But Verizon further acknowledges that the average depreciation lives for its DC power equipment ranges from 15 to 30 years[23] – about two to three times longer than that for its switching equipment. Thus, by

[21] *Verizon Direct Case*, CC Docket No. 01-140, Transmittal Nos. 1373 and 1374 and Transmittal Nos. 23 and 24, July 17, 2001, Exhibit G, p. 1.

[22] *Verizon Direct Case*, CC Docket No. 01-140, Transmittal Nos. 1373 and 1374 and Transmittal Nos. 23 and 24, July 17, 2001, Exhibit G, p. 1.

[23] *Verizon Direct Case*, CC Docket No. 01-140, Transmittal Nos. 1373 and 1374 and Transmittal Nos. 23 and 24, July 17, 2001, Exhibit G, p. 1.

using very short depreciation lives, Verizon's cost study significantly inflates its DC power costs.

30. Verizon did not submit information relating to its Digital Circuit Other ACFs and there is insufficient information in this filing to correct for the errors in Verizon's cost model's relating to depreciation lives. In my experience, however, incumbent LECs keep that type of data. Thus, Verizon should be required to turn that data over to the Commission and other interested parties so that those errors can be fixed.

IV. VERIZON'S NEW DC POWER RATES SIGNIFICANTLY EXCEED THOSE OF OTHER INCUMBENT LECS AND LACK KEY SUPPORTING DOCUMENTATION.

31. Verizon's new rates for DC power are truly extraordinary when compared to those of other incumbent LECs. As I explained above, most of the costs of DC Power Consumption are attributable to the cost of equipment that is used to convert AC power to DC power and to store and deliver that power to collocators. Because the cost of the equipment used for those processes varies little for different incumbent LECs, their costs of DC Power Consumption should also be about the same.

32. Furthermore, Verizon's claim that its rates for DC Power Consumption rates cannot be compared to other carriers' rates for DC Power Consumption because Verizon does not include nonrecurring charges for DC Power Distribution is wrong. Verizon is seeking to obfuscate differences in cost-recovery rate structures, to mask the similarity in the cost structures. I have personally reviewed the DC Power Consumption cost studies for incumbents in California, Delaware, Hawaii, Kansas, Massachusetts, Michigan, Missouri, Nevada,

Oklahoma, Pennsylvania, Texas, Washington, and Wisconsin.[24] In all of these cases, the investments that Verizon documented in Attachment 1 Direct Case ("Description of Power Equipment") are the same investments that are included in the DC Power Consumption cost studies for these incumbents.

33. To illustrate this point, I have attached the cost filing that Southwestern Bell Telephone Company ("SBC") made in Texas for its DC Power Consumption cost study. *See* Attachment 5. SBC's cost study includes the same BDFB, batteries, power distribution center, rectifiers, and standby generator investment that Verizon's cost study includes. Therefore, Verizon's contention that the DC Power Consumption rates from other incumbents are not comparable its DC Power Consumption rates is simply not correct. The cost studies reflect the same investment items and are directly comparable. Moreover, Verizon's claims that it is recovering non-recurring (or DC Power Distribution) costs in its recurring (or DC Power Consumption) rates is particularly disingenuous in light of the fact that Verizon is now seeking both a DC Power Distribution non-recurring rate *and* a separate DC Power Consumption recurring rate in a Massachusetts proceeding. Thus, Verizon's claim that it currently is already recovering its DC Power Distribution costs in its DC Power Consumption rates cannot be correct.

34. Verizon seeks approval of a DC Power Consumption rate of $16.41 per amp in Verizon-North, $25.32 in New York, and $20.23 in Verizon-South. Those rates exceed those

[24] There are other states for which I have reviewed the cost recovery structures but have not reviewed the cost studies. In these other states the same structure is used as is found in the 13 states for which I have reviewed the cost studies.

charged by other states by at least 119%, and as much as 348%.[25] The chart below depicts these rate differences.[26]

State	DC Power Consumption Rate	Verizon-North Gap	Verizon-New York Gap	Verizon-South Gap
Texas	$9.50	173%	267%	213%
Kansas	$7.57	217%	334%	267%
Oklahoma	$7.28	225%	348%	278%
Michigan	$9.65	170%	262%	210%
Alabama	$13.50	122%	188%	150%
Florida	$13.29	123%	191%	152%
Georgia	$7.50	219%	338%	270%
Kentucky	$13.16	125%	192%	154%
Louisiana	$13.80	119%	183%	147%
Mississippi	$13.44	122%	188%	151%
North Carolina	$9.98	164%	254%	203%
South Carolina	$13.79	119%	184%	147%
Tennessee	$13.31	123%	190%	152%

35. Verizon has provided no justification for these large DC Power cost differences. Although the Commission specifically requested that Verizon document the cost differences between its prior filings for DC Power – which were more in line with those of other incumbent LECs – Verizon provided no such information, claiming that it could not find such data. In my view, Verizon's DC Power tariff change should be rejected until and unless Verizon presents a compelling case that Verizon is somehow different from other carriers that install the same equipment for the same purpose, and therefore is entitled to substantially higher DC Power rates.

[25] Verizon using a zero percent common cost factor in the Verizon-North states skews the low-end percentage. If the low-end comparison is based on the other regions, the low-end percentage becomes 147 percent.

[26] This chart does not include DC Power rates for states that have not completed collocation cost proceedings. It is notable however, that in my experience the rates that have been *requested* by other incumbents are generally lower than those that Verizon is asking the FCC to approve on the east coast.

36. Another relevant (and telling) comparison is that between Verizon's Nevada DC Power rates and those used by Verizon to develop the rates that are under investigation in this proceeding. Verizon's DC Power Consumption rate for Nevada is $15.12 per amp compared to $16.41 per amp in Verizon-North, $25.32 in New York, and $20.23 in Verizon-South. That is as much as a 167% gap. Of course, that is a comparison of Verizon's Nevada rates to Verizon's *average* rates including a weighting of metro, urban, suburban, and rural offices. However, Verizon's offices in Nevada are "rural" in size. A proper comparison would account for the fact that the offices in Verizon-Nevada territory are generally rural offices and should be compared to the rural cost generated in Verizon's FCC filing. That can be done in Verizon's FCC cost study simply by changing the "Statewide Weighting Factor" so that rural offices account for 100 percent of the offices. When this is done, the Verizon FCC rural rate for DC Power Consumption is $23.88 per amp in Verizon-North, $43.77 in New York, and $29.76 in Verizon-South as compared to Verizon-Nevada's rate for DC Power Consumption of $15.12. In other words, the real gap is between 158% and 289%. In other words, even using Verizon's own rates, the real gap, on an apples-to-apples basis is between 158% and 289%.

37. Reversing this process to assume that Verizon-Nevada's rural rate is applicable to Verizon-East, *i.e.*, that the Verizon-East rural rate should be $15.12 per amp, Verizon's entire east cost costs can be extrapolated, producing rates of $10.39 per amp in Verizon-North, $8.75 in New York, and $10.28 in Verizon-South. These rates are very close to the rate that the Texas Public Utilities Commission recently ordered for Texas after conducting an extremely detailed evaluation of Southwestern Bell's costs for collocation.

38. Given that Verizon is seeking approval of DC Power rates that are significantly higher than those in any other state (and even its own rates in Nevada), Verizon should be

required to provide considerable evidence to justify those higher costs. But Verizon's Direct Case contains no such evidence. Indeed, Verizon simply asserts the critical inputs to its model were provided by "engineering."[27] And the data that Verizon has provided are virtually unrelated to the rates that are under investigation in this proceeding. There is virtually no correspondence between the investments and the support that is shown from the invoices. In short, Verizon has wholly failed in providing the necessary support for its DC Power Consumption costs.

V. CONCLUSION

39. This reply declaration demonstrates that Verizon's proposed DC power rates are significantly overstated due to numerous, compounding errors in its DC Power cost study. Verizon's proposed DC Power rates represent a significant departure from an efficient, forward-looking approach to developing the costs for DC Power. Verizon's proposed DC Power rates are a substantial outlier even from other incumbent LECs' DC Power rates. My revised rates which correct for the errors discussed herein for are included in Attachment 2.

[27] *Verizon Direct Case*, CC Docket No. 01-140, Transmittal Nos. 1373 and 1374 and Transmittal Nos. 23 and 24, July 17, 2001, Attachment 2, Workpaper 1.0, p. 3.

VERIFICATION PAGE

I, Steven E. Turner, declare under penalty of perjury that the foregoing is true and correct.

Steven E. Turner

Executed on July 30, 2001.

DECLARATION OF STEVEN E. TURNER
ATTACHMENT 1

STEVEN E. TURNER

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KALEO CONSULTING EMPLOYMENT EXPERIENCE:

TELECOMMUNICATIONS AND FINANCIAL CONSULTANT (Jan 1997-Present)

- Provide expert testimony on technical issues surrounding the unbundling and interconnection to incumbent Local Exchange Company (ILEC) networks. The testimony includes analysis of ILEC unbundling and interconnection per the Telecommunications Act of 1996 (Section 271) as well as other technical issues of local market entry. Further, the testimony includes evaluating and conducting unbundled element and interconnection cost studies.
- Provide expert testimony on the level and extent of facilities-based competition in the local market place. This testimony which quantitatively and economically evaluates the extent of competition results in an assessment of ILEC compliance with Section 271 proceedings.
- Develop models to aid companies in developing market entry plans for the local telecommunications market. This assistance includes evaluating what market entry alternatives as well as which geographies provide the best profit opportunities for the new entrant.

AT&T EMPLOYMENT EXPERIENCE:

DISTRICT MANAGER - CONNECTIVITY NETWORK PLANNING - LI&AM (Feb 1996-Dec 1996)

- Managed the development of AT&T's Infrastructure Plans of Record for the Southwest region. These plans entailed defining the right mix of built and leased infrastructure to meet AT&T's local offer needs at the least cost.
- Managed AT&T's dedicated access inventory in the Southwest region. This effort involved identifying the optimum supplier(s) in each market for AT&T's access needs to meet both financial and strategic objectives.

MANAGER - STRATEGIC ACCESS PLANNING - Access Strategic Planning (Nov 1994-Feb 1996)

- Managed the development of strategic models to analyze alternatives for entering the local market. These models considered various technologies for entering local that would optimize the contribution to AT&T from a revenue, expense, and capital perspective.

RE-ENGINEERING MANAGER - Network Operations (Jul 1994-Oct 1994)

- Directed a CCS-NSD management-union team in re-engineering the engineering, provisioning, and maintaining of the Operator Services network. Delivered a re-engineered process that reduced operational expense significantly while mitigating the impacts on customers and employees.

PROJECT MANAGER/SYSTEM ENGINEER - CCS Centralized Test Center (Jan 1992-Jun 1994)

- Coordinated implementation plans and system development for new services and network elements in the Common Channel Signaling (CCS) Network. The planning scope included provisioning, monitoring, and maintaining the T1.5 facilities for the CCS signaling circuits.
- Acquired funding (development, capital, and head count) through writing and defending business cases in support of projects for new services or network elements in the CCS Network. Upon approval, coordinated the implementation of system development and capital projects affecting the CCS Centralized Test Center.

AT&T EMPLOYMENT EXPERIENCE (cont.):

DEPARTMENTAL QUALITY MANAGER - Network Operations (Jan 1990-Jan 1992)

- Developed the Network Operations Quality Management System and implemented it into an organization of 5000 people. Implementation required gaining organizational support for staffing and training 40 Quality Specialists and managing their efforts in transferring the quality technology into Network Operations.

OPERATIONS SUPERVISOR - Regional Network Service Center (Nov 1988-Dec 1989)

- Managed the Regional Network Service Center serving AT&T customers in the Southeastern United States through correcting their service troubles. Responsibilities included leading a team of 20 associates who responded to over 2000 customer troubles per month and escalating with Local Exchange Companies to remove barriers to trouble resolution.

4ESS SWITCH ENGINEER - Network Engineering Services (Dec 1987-Nov 1988)

- Identified current levels of asset utilization, analyzed future needs, and developed a capital budget to purchase and provision the necessary equipment to efficiently meet customer needs. Managed the implementation of over $10M in capital projects.

GENERAL ELECTRIC EMPLOYMENT EXPERIENCE:

RESEARCH AND DESIGN ENGINEER - Simulation and Control Systems (Jun 1986-Dec 1987)

- Designed and developed a major sub-system for a high-speed graphics simulator supporting both defense and commercial customers.
- Designed and developed a Very Large-Scale Integrated (VLSI) Chip with over 80,000 transistors used in the video display sub-system for the high-speed graphics simulator.

ACHIEVEMENTS:

- Developed the strategic planning system used throughout AT&T Connectivity Planning that identifies the mix of connectivity options (Wireless, CATV, LEC) that AT&T should implement within a market. This model is being used to determine AT&T's local market entry strategy for the entire country.
- Re-engineered the Operator Services operations processes through a collaborative effort of management and union employees yielding $19.9 million in operational expense savings annually while making the new organization more customer responsive.
- Planned and implemented a modification to the CCS Network data collection architecture resulting in operational expense savings of $7.3 million per year.
- Significantly advanced the implementation of Total Quality Management in Network Operations through the Quality Specialist strategy initiative begun in 1990.
- Completed development of a Win Back Program for non-AT&T customers who called the Regional Network Service Center in error. This program generated over $1.6 million in new revenue for AT&T in 1989.
- Designed and developed a Management Information System enabling the measurement of asset utilization in switching equipment at any point in time. The use of the information provided with this system and the resulting changes in engineering practices reduced Network Operations under-utilized switching assets by approximately $250 million.
- Re-engineered the installation process for switching equipment resulting in a 70% reduction in the installation interval.
- Designed and developed the largest VLSI chip with General Electric at that time in only five months.

EDUCATION:

August 1990:	**Masters of Business Administration Degree - Finance** Georgia State University Atlanta, Georgia
December 1986:	**Bachelor of Science Degree - Electrical Engineering** Auburn University Auburn, Alabama

DECLARATION OF STEVEN E. TURNER
ATTACHMENT 2

(REDACTED FOR PUBLIC INSPECTION)

DECLARATION OF STEVEN E. TURNER
ATTACHMENT 3

(REDACTED FOR PUBLIC INSPECTION)

DECLARATION OF STEVEN E. TURNER
ATTACHMENT 4

DEVELOPMENT OF WHOLESALE OVERHEAD LOADING (RECURRING)

(All data based on total Bell Atlantic 1998 results)

LINE	ITEM	SOURCE	AMOUNT
A	B	C	D
1	Wholesale COH Loading	Workpaper Sect 3.11 Page 2 Line 10	0.067654
2	SPE Loading	Workpaper Sect 3.11 Page 4 Line 8	-
3	Merger Expense Savings (Bell Atlantic/NYNEX)	Workpaper Sect 3.11 Page 5 Line 12	0.016179
3.1	Merger Expense Savings (Bell Atlantic/GTE)	Workpaper Sect 3.11 Page 5.1 Line 12	0.009707
4	Total Overhead Loading	Line 1 + Line 2 - Line 3 - Line 3.1	0.041768
5	Fwd Looking to Current Factor for Recurring Overhead	Workpaper Sect 3.11 Page 3 Line 16	87.9%
6	Forward Looking Overhead Loading For Recurring *	Line 4 / Line 5	0.047517

* Should be applied in any study which includes Network, Wholesale Marketing or Other Support ACFs

DECLARATION OF STEVEN E. TURNER
ATTACHMENT 5

Physical Collocation 48V DC Power Consumption Costs

Element	Description	2500 Amp				4000 Amp				Re-useable	Used By	Remarks
		Engineer	Furnish	Install	Total	Engineer	Furnish	Install	Total			
1200 Amp BDFB	A & B Feed, e/w all shelves and fuses	$ -	$ 14,400.00	$ 5,600.00	$ 37,349.00	$ -	$ 14,400.00	$ 5,600.00	$ 37,349.00			
750MCM cable	Between -48V DC Power Plant & BDFB (4 Bat, 4 Return)		$ 9,360.00	$ -	$ -		$ 9,360.00	$ -	$ -			The Cost to Install the Cable is Included Above in the Cost to install the BDFB
Batteries	Sufficient to provide 4 Hour Reserve		$ 145,600.00	$ 18,666.00	$ 522,910.00	$ 209.16	$ 280,000.00	$ 34,666.00	$ 729,474.00	$ 182.37		
Power Distribution Center	Battery Control Board		$ 7,000.00	$ 5,000.00	$ -		$ 10,500.00	$ 8,000.00	$ -			
Rectifiers	(N+1) to carry load plus 1 for Maintenance		$ 58,800.00	$ 11,200.00	$ -		$ 115,500.00	$ 16,800.00	$ -			
Power Plant & BDFB Engineering		$ 4,160.00	$ -		$ 4,160.00	$ 5,200.00	$ -		$ 5,200.00			
15" Cable Rack Occupancy	4 x 750MCM x 150 ft. between Power Plant and BDFB	$ -	$ -	$ -	$ 948.00	$ -	$ -	$ -	$ 948.00			The Costs for Engineering Furnishing, and Installing are Included in the Total
Cable Hole Occupancy Charge	For 2 Cable Holes	$ -	$ -	$ -	$ 219.61	$ -	$ -	$ -	$ 219.61			The Costs for Engineering Furnishing, and Installing are Included in the Total
Standby Generator	Includes fuel tanks, AC Entrance, & Switchboard Eqpt.	$ -	$ -	$ -	$ 112,120.00	$ -	$ -	$ -	$ 179,381.00			The Costs for Engineering Furnishing, and Installing are Included in the Total
Total Investment		$ 4,160.00	$ 235,160.00	$ 40,466.00	$ 677,706.61	$ 5,409.16	$ 429,760.00	$ 65,066.00	$ 952,581.61			
Investment Per Amp					$ 288.22				$ 261.22			
Average Investment Per Amp							$ 274.72					
Assumed Utilization of Power Plant							75.00%					
Actual Investment Per -48V DC Amp							$ 366.30			Y	ILEC & All CLECs	

AC Component

Quantity of DC Amps		1
Watts per DC Amp		48
Hours Usage Per Day		24
Days Usage per month		30
Total Monthly DC Watts		34,560
AC Equivalent Watts at 85% Rectifier Efficiency		40,659
Total AC Kilowatt Hours		40.66
Monthly Cost per Kilowatt Hour		
Monthly AC Rate per DC Amp		$0.00

Note: State Specific Input on Inputs Page