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June 16, 2004

Ex Parte

Marlene H. Dortch
Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20554

Re: Section 272(f)(1) Sunset of the BOC Separate Affiliate and Related Requirements, WC Docket No. 02-112, (272 Sunset Performance Measurements)

Dear Ms. Dortch:

On June 15, 2004, Dee May, Don Perry, Julie Slattery, Sherry Ingram, Barbara Alder and the undersigned representing Verizon met with Michael Carowitz, William Cox, William Kehoe, Pamela Megna, Bill Dever, Brad Koerner, Julie Veach, Kimberly Jackson and Ben Childers of the Wireline Competition Bureau to discuss the attached materials.

Attachment A elaborates on Verizon's position discussed at the meeting. Attachments B and C were distributed at the meeting.

If you have any questions, please feel free to call me at (202) 515-2545.

Sincerely,

Attachments

cc: Michael Carowitz
William Cox
William Kehoe
Pamela Megna
Bill Dever
Brad Koerner
Julie Veach
Kimberly Jackson
Ben Childers

ATTACHMENT A

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Re: Section 272(f)(1) Sunset of the BOC Separate Affiliate and Related Requirements, WC Docket No. 02-112, (272 Sunset Performance Measurements)

Dear Ms. Dortch:

As Verizon previously has explained, the Commission does not need to establish access service performance metrics because of the highly competitive nature of the special access market. Instead, market forces should be allowed to govern the performance of providers of such services. However, if this Commission decides to establish such measures, they should be specifically focused on allowing the Commission to evaluate compliance with Section 272 (e). In addition, any such mandated performance measurements scheme should allow for periodic reporting (annually or biennially) of monthly performance results in a manner that provides reasonable flexibility for each Bell Operating Company (BOC) to define and report such measures in a way that appropriately reflects the legitimate process and operational differences among the Companies.

Also as discussed during our June 15, 2004 meeting, attached is a matrix showing Verizon's approach to the metrics set forth in BellSouth's April 29, 2004 proposal. As the matrix demonstrates, while there are many similarities in the way the two companies would define and report these metrics, there also are a number of key definitional and business rule adjustments Verizon proposes. These adjustments align the definitions and business rules to similar measures reported elsewhere by Verizon and would promote accuracy and efficiency. In addition, as the staff requested during the meeting, Verizon explains below why reporting on PIC change and switched access performance is not necessary and why statistical tests may be used as screening devices but do not provide "bright line" measures for concluding that performance has been discriminatory.

A. Switched Access (FGD) and PIC Change Performance Reporting Is Not Needed

Verizon reports its exchange access performance in a number of different ways including in annual ARMIS reports (aggregate installation and maintenance metrics); 272 Biennial audits (installation, maintenance and PIC change metrics); and individually negotiated business-to-business carrier-specific performance reports. Despite the availability of these data, Verizon is aware of no state or federal

complaints or other litigation associated with Verizon's switched access (FGD) or PIC change performance. And although Verizon's 272 Biennial audit data suggested some disparity in PIC change performance between Verizon's affiliate and non-affiliate carriers, Verizon addressed these issues and is aware of no further concerns with respect to its PIC change performance. Verizon meets its goal of completing PIC change requests in less than 24 hours 99 percent of the time,¹ and has on average met its confirmed due date for switched access 96 percent of the time.² Thus, there is no need for Commission performance monitoring for these two services.

In addition, while most of Verizon's wholesale access customers request and receive access performance reports tailored to their specific areas of interest or concern, none of them have requested or received reporting for either switched access (FGD) or PIC change performance. This is a further indication that BOC performance in providing PIC changes and switched access is not an area about which the industry has shown concern. Indeed, the Ordering and Billing Forum (OBF) of the Alliance for Telecommunications Industry Solutions (ATIS), the industry's standard producing body, has established no performance standards in their guidelines for PIC changes.

Given the limited resources of both the Commission and the BOCs to develop, produce, and investigate performance reports, any effort to require additional reporting of measures should be prioritized to address areas of potential concern. Switched access (FGD) and PIC change performance should be excluded as performance in these areas has consistently exceeded customers' expectations, there is no evidence of unsatisfactory performance in these areas, and non-affiliate carrier customers have sufficient means of monitoring and addressing performance concerns through service escalation within Verizon's wholesale markets and account management organizations or actions that may be available pursuant to state or federal tariffs or carriers' interconnection agreements.

B. Statistical Tests Alone Do Not Provide Evidence of Discriminatory Conduct

During our meeting, staff also inquired about the use of statistical tests to provide a bright line rule that could be used in enforcement proceedings to evaluate provisioning and maintenance performance. Although one may use statistical tests to identify "outliers" and areas that may warrant further investigation or analysis, such tests do not provide evidence of discriminatory conduct by themselves. The Commission has repeatedly emphasized that, when a performance standard has not been met, further examination is required "to make a determination whether the statutory nondiscrimination requirements are met:"

Thus, the Commission will examine the explanations that a BOC and others provide about whether these data accurately depict the quality of the BOC's performance The Commission may find that statistically significant differences exist, but conclude that such differences have little or no competitive significance in the marketplace. In such cases, the Commission may conclude that the differences are not meaningful in terms of statutory

¹ For carrier-initiated PIC change requests, Verizon completed 99.7% within 24 hours of receipt in 2003 and 98.6% in the same time frame in the first five months of 2004.

² This data is for calendar year 2002, as reported by PricewaterhouseCoopers LLP in the Verizon Section 272 Biennial Agreed Upon Procedures Report, CC Docket No. 96-150 (dated June 12, 2003).

compliance. Ultimately, the determination of whether a BOC's performance meets the statutory requirements necessarily is a contextual decision based on the totality of the circumstances and information before the Commission.³

Applying this standard, the Commission has repeatedly found that apparent disparities in performance "do not appear to be competitively significant" and, therefore, do not constitute violations of the Act.⁴

A number of variables can affect statistical results and must be considered before any finding of discrimination may be made. One factor that can produce misleading results is that the underlying data may not be compatible with key assumptions that underlie a particular statistical test. For example, several commonly used test statistics, (Student's *t* and the Z-test) assume that the underlying data are distributed normally – i.e., evenly distributed around the mean from a bell-shaped or symmetric distribution. But this assumption is not likely to hold when sample sizes are small. Accordingly, the Commission has recognized that apparent disparities in performance can be the result of a very low number of observations, where "small variations in performance may produce wide swings in the reported performance data."⁵ These tests can also be unreliable when the data are skewed and/or the sample sizes of the data being compared are not equal. When this happens, as it can with a very high number of observations, it can make even the most competitively insignificant differences in performance appear to be statistically significant even though they are not.

Alternative tests, such as permutation and exact tests, while generally more reliable under these circumstances, are based on a key assumption that the data in both samples are exchangeable or comparable – that the data one is comparing are "apples-to-apples." This is a potential problem for special access services because each circuit is different. Special access services can be provisioned on different facilities (copper or fiber), across different architectures (directly or through cross connect equipment), and vary in complexity depending on the length and/or location of the circuit. A special access circuit provisioned over copper in a congested area or one that is difficult to reach often will not be comparable, in terms of provisioning and/or maintenance, to one that is provisioned over fiber in an easily accessible location. When the two data samples are not exchangeable or comparable, permutation or exacts tests often will produce misleading results.

An additional problem in using statistical tests as a "bright-line" determinant is that the rate of "false positives" (i.e., test "failures" indicating disparity where none in fact exists) increases as the number of tests increases. For a single test, the probability of a false positive is determined by the significance level chosen by the analyst—typically 5 percent. This means that there is a 5 percent chance that the statistical test will fail (indicating disparity), even though there was no discrimination in the service provided. In other words, the supposed indicator of discrimination is due to random chance, not to a difference in the actual service provided to the two populations. This error, known as Type I error, increases as more tests are conducted.

³ *Arizona 271 Order*, 18 FCC Rcd 25504, App. C (Statutory Requirements), ¶ 8 (2003).

⁴ *Id.* ¶ 31 n.111; *see, e.g., Maryland/DC/West Virginia 271 Order*, 18 FCC Rcd 5212, ¶ 18 n.59 (2003); *New Hampshire/Delaware 271 Order*, 17 FCC Rcd 18660, ¶ 111 (2002); *Maine 271 Order*, 17 FCC Rcd 11658, ¶ 47 (2002).

⁵ *Kansas/Oklahoma 271 Order*, 16 FCC Rcd 6237, ¶ 36 (2001).

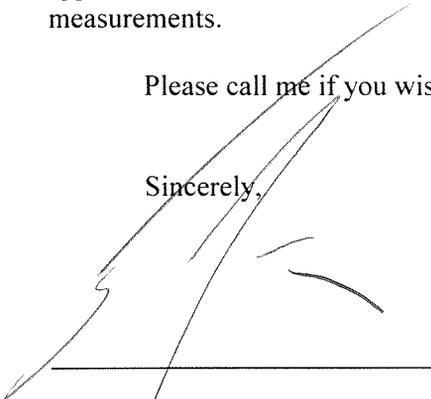
Furthermore, while the error rate for a single test may be set at 5%, the error rate for a group of tests increases as the number of tests increases. For example, the Type I error rate, i.e., the probability that at least one “failure” will be observed when in parity for a single metric over a 12 month period increases to nearly 50%. That is, there is a 50% chance that at least one test will fail during the year even though non-discriminatory service has been provided.⁶ Since the number of tests increase as either a) the same metric is tested over multiple months, and/or b) several metrics are tested within one month, any bright line test will almost definitely include false positives and incorrectly suggest discrimination where none exists.

For all of these reasons, the Commission has found that it “would be *unreasonable* to expect a particular performance metric to always show *ex post* equal or better performance for service to a [CLEC], compared to that provided to the incumbent LEC’s customers.”⁷ Indeed, in what is fundamentally a parity process — that is, where an incumbent is doing the same type of work for the CLECs and IXC’s that purchase special access as for its affiliate customers — it should be expected that parity means that the results are sometimes better for non-affiliate carrier customers and sometimes better for the incumbent’s affiliate carrier customers. Thus, the Commission has recognized that simple “random variation,” as a result of viewing data in one-month slices, can “cause performance to the [CLEC] to drop accidentally below the level needed for a determination of parity,” “even with identical processes serving ... competing ... customers.”⁸

Thus, it is impossible to develop rules that perfectly gauge a carrier’s performance so that the failure to meet a statistical standard offers conclusive evidence of discriminatory conduct on the part of the carrier in violation of Section 272(e) of the Act. Establishing performance standards that are precisely equivalent to the requirements of the Act and designing measurements and statistical methodologies that eliminate any possibility of events outside a carrier’s control resulting in a miss of one or more of those standards is a daunting task. In addition, as experience has demonstrated for carrier-to-carrier measures, any special access measurements the Commission adopts will necessarily require an iterative process as application of those measurements reveals the need for modifications or even the elimination of certain measurements.

Please call me if you wish to discuss further.

Sincerely,



⁶ These are conservative estimates of the Type I error rate for multiple tests. If the metrics are correlated with each other, or across time (autocorrelation), the Type I error rate will be even higher.

⁷ *New York 271 Order App. B*, ¶ 2 n.2 (emphasis added).

⁸ *New York 271 Order App. B*, ¶¶ 2 n.2, 9 n.25 (when “a 95 percent confidence level is used for a statistical test,” “out of every 100 measurements, on average five should show statistically significant differences, even with identical processes serving retail and competing . . . customers”).

ATTACHMENT B

Limitations to Statistical Tests

Concerns With Statistical Tests

- Is the Test Result Reliable?
 - Conformance of data with key statistical assumptions (normality, exchangeability)
- False Positive (Type I Error) Rate
 - Rate increases as test is conducted over multiple months and/or metrics
- Statistical Versus Competitive Significance

Two Sample Test Alternatives

- Classical Test Statistics
 - average metrics: Z -test, t -test
 - counted metrics (percents, rates): Z -test
- Exact/Permutation Tests
 - average: permutation/resampling
 - test statistic?
 - Counted: Fisher Exact or Binomial Exact

Reliability

- Key Assumptions
 - Classical Tests (Z-test, t -test)
 - normality (Z-test, mod- t) or at least symmetric
 - distributions more likely to be assymmetric or skewed distributions (frequently mixed)
 - equal (balanced) sample sizes (rare)
 - All tests: like-to-like (“exchangeability” or iid)
 - key to any statistical test; only..but critical assumption to permutation tests (Special Access)
 - autocorrelation, correlation between metrics

False Positives

- Type I Error Rate
 - probability of rejecting parity when it's true
 - pre-selected by analyst (loss function)
- Multiple Testing Problem (FWE)
 - Type I error rate increases, e.g. for 12 months = 46%
 - correlation (across metrics or over time) increases TI error rate

Competitive/Statistical Significance

- Statistical Literature: “too much power”
 - appearance: test rejection implies that difference is “large”
 - reality: tests can detect negligible differences with no competitive impact when dispersion i.e., std. error, is small
- FCC NY 271 Decision

Consequences

- Violation of key assumptions
 - Classical tests unlikely to be reliable
 - data are unlikely to be normal or symmetric (and are not easily transformable); p-values are unreliable
 - unequal sample sizes are the norm
 - data may not be comparable (uniqueness of Special Access data)
 - critical assumption of “exchangeability” may be easily violated
 - difficult to rely on testing (solely) without add'l analysis

Consequences

- Type I Error Rate
 - Minimize number of tests/metrics
 - key independent measures
 - Recognition of “over time” problem
 - failed test does not necessarily indicate discriminatory service (FWE)
 - need to look at performance over time (several months)
- Competitive/Statistical Significance
 - difference not only statistically significant, but large enough to have competitive impact

Value of Statistical Tests in Special Access Arena

- Identify Potential Problem Areas
 - Batch process comparisons to identify metrics with statistically and competitively significant differences
- If Test Fails
 - Check key assumptions are not violated
 - difference is competitively significant
 - like-to-like (metric definitions are critical, need to be reviewed periodically)
 - outlier analysis (influence statistics)

ATTACHMENT C

Firm Order Confirmation

	Verizon's Understanding of Bell South's Proposal	Verizon Proposal - DRAFT 06/15/04
Designator	FOCT2: Firm Order Confirmation Timeliness	Firm Order Confirmation Timeliness
Definition	Firm Order Confirmation Timeliness measures the percentage of FOC's returned within the standard interval	The Percentage of confirmed service requests where the firm order confirmation was returned within the agreed upon timeframe.
Exclusions	<ul style="list-style-type: none"> • Service Requests identified as Projects. • Service Requests cancelled by the originator. • Weekends and designated holidays for the service centers. • Unsolicited FOCs • Administrative or test requests. 	<ul style="list-style-type: none"> • Service Requests identified as Projects. • Weekends and designated holidays for the service centers. • Unsolicited FOCs • Administrative or test requests. • Service requests canceled prior to the issuance of a FOC
Business Rules	<ul style="list-style-type: none"> • Counts are based on each instance of a FOC being sent. • Days are business days (M-F) excluding holidays • Activity started on a weekend or holiday will take the next business day • Activity ended on a weekend or holiday will take the previous business day • Requests received after 3pm will be counted as a zero day interval if the FOC is sent by the close of business on the next business day. 	<ul style="list-style-type: none"> • Counts are based on each instance of a FOC being sent. • Days are business days (M-F) excluding holidays • Activity started on a weekend or holiday will take the next business day • Activity ended on a weekend or holiday will take the previous business day • Day zero will be counted as the day the request was received up until midnight.
Report Structure	Non-Affiliate/Affiliate, Region/State Interval Categories: <= 2 Bus Days, <=5 Bus Days	Non-Affiliate/Affiliate, State Interval Categories: <= 5Bus Days, <=7Bus Days
Disaggregation	<ul style="list-style-type: none"> • DS0 (2 Days) - Parity • DS1 (2 Days) - Parity • DS3 Non-Optical (5 Days) - Parity • DS3 Optical (ICB) - Parity • FGD (2 Days) - Parity 	<ul style="list-style-type: none"> • DS0 • DS1 • DS3 • OCn
	*Reports FOC Completeness Calculation	*This component is not necessary for the calculation nor is it a meaningful measure of quality.

Provisioning

	Verizon's Understanding of Bell South's Proposal	Verizon Proposal - DRAFT 06/15/04
Designator	PIAM2: Percent Installation Appointments Met	Installation On Time Performance
Definition	Percent installation Appointments Met measures the percentage of installation commitments completed on/before the current committed due date.	Percent of orders completed in the reporting period that were completed on or before the confirmed due date
Exclusions	<ul style="list-style-type: none"> • Orders issued and subsequently canceled. • Orders associated with internal or administrative activities. • Disconnect Orders. • Carrier caused or end-user misses. 	<ul style="list-style-type: none"> • Canceled orders • Verizon test orders • Orders associated with internal or administrative activities • Disconnect Orders
Business Rules	<ul style="list-style-type: none"> • Calculated by dividing number of service orders completed on or before the committed due date by the total number of orders comitted to completion during the same reporting period. • Only BS missed appointment codes will be counted as a miss (numerator) • The first valid missed appointment codes will be used to determine whether an order is considered missed. 	<ul style="list-style-type: none"> • Calculated as the percentage of orders completed during the reporting period that were completed on or before the confirmed due date. • Only VZ missed appointment codes will be counted as missed in the numerator • When the due date is changed at the customer's request, the last requested due date will be measured.
Report Structure	Non-Affiliate/Affiliate, Region/State	Non-Affiliate/Affiliate, State
Disaggregation	<ul style="list-style-type: none"> • DS0 (2 Days) - Parity • DS1 (2 Days) - Parity • DS3 Non-Optical (5 Days) - Parity • DS3 Optical (ICB) - Parity • FGD (2 Days) - Parity 	<ul style="list-style-type: none"> • DS0 • DS1 • DS3 • OCn

New Service Quality

	Verizon's Understanding of Bell South's Proposal	Verizon Proposal - DRAFT 06/15/04
Designator	NITR2: New Installation Trouble Report Rate	New Circuit Failure Rate
Definition	New installation Trouble Report Rate measures the quality of the installation work by capturing the rate of trouble reports on new circuits within 5 calendar days of the installation	NewCircuit Failure Rate measures the percent of circuits where a trouble was found within the Verizon network within 30 days of order completion.
Exclusions	<ul style="list-style-type: none"> • Trouble tickets canceled • Customer Provided Equipments (CPE) or other customer caused troubles • BS troubles associated with administrative service • Troubles outside of BS control. 	<ul style="list-style-type: none"> • Trouble tickets issued and subsequently canceled • Customer Provided Equipments (CPE) or other carrier or end-user caused troubles • Trouble reports associated with administrative service • Employee initiated trouble reports • No Trouble Found (NTF) and Test OK (TOK)
Business Rules	<ul style="list-style-type: none"> • Only the first customer direct trouble report received within 5 days of a completed service order is counted in this measure. Subsequent reports are excluded • Only customer direct trouble reports that require physical repair work by BS will be counted in this report. • Reports are calculated by searching in the prior report period for completed service orders and the following 5 days after completion of the service order for a trouble report issues date. • BS completion date is the date upon which BS completes installation of the circuit. • The calculation for the following 5 calendar days is based on the creation date of the trouble ticket. 	<ul style="list-style-type: none"> • All customer reported troubles where the trouble was found in the Verizon network within 30 days of a completed service order are counted in this measure. • VZ completion date is the date upon which VZ completes installation of the circuit. • The calculation for the following 30 calendar days is based on the receipt date of the trouble ticket. • Failures are counted in the month the trouble report is closed • New Circuits are defined as "Add" orders.
Report Structure	Non-Affiliate/Affiliate, Region/State	Non-Affiliate/Affiliate, State
Disaggregation	<ul style="list-style-type: none"> • DS0 (2 Days) - Parity • DS1 (2 Days) - Parity • DS3 Non-Optical (5 Days) - Parity • DS3 Optical (ICB) - Parity • FGD (2 Days) - Parity 	<ul style="list-style-type: none"> • DS0 • DS1 • DS3 • OCn

PIC Changes

	Verizon's Understanding of Bell South's Proposal	Verizon Proposal - DRAFT 06/15/04
Designator	PIC2: Average PIC Change Interval	Verizon proposal does not include this metric
Definition	Average PIC Change Intervals is defined as the average interval of time between the date/time the PIC change request is received and the date/time the PIC changes is completed.	
Exclusions	None	
Business Rules	<ul style="list-style-type: none"> • PIC Change Interval is defined as the elapsed time between receipt of a valid PIC change request to completion of the PIC change in the BS switch. • A PIC change interval is calculated for each valid PIC change request. • Intervals are averaged for computation of the Average PIC Change Interval measurement. • Records rejected from the ordering or CARE process do not reach BS data and therefore cannot be considered. 	
Report Structure	Non-Affiliate/Affiliate, Region/State	

Trouble Reports

	Verizon's Understanding of Bell South's Proposal	Verizon Proposal - DRAFT 06/15/04
Designator	CTRR2: Failure Rate/Trouble Rate	Failure Frequency Rate
Definition	The percentage of initial and repeated circuit specific trouble reports completed per 100 in-service circuits for the reported period.	The total number of customer reported trouble reports where the trouble was found in the Verizon network per 100 circuits in service on the last business day of the reporting period.
Exclusions	<ul style="list-style-type: none"> • Trouble tickets canceled • Customer Provided Equipments (CPE) or other customer caused troubles • BS troubles associated with administrative service • Troubles outside of BS control. 	<ul style="list-style-type: none"> • Trouble tickets issued and subsequently canceled • Customer Provided Equipments (CPE) or other carrier or end-user caused troubles • VZ troubles associated with administrative service • Employee initiated trouble reports • No Trouble Found (NTF) and Test OK (TOK)
Business Rules	<ul style="list-style-type: none"> • Only customer direct trouble reports, which require physical repair work by BS, will be counted in this report. 	<ul style="list-style-type: none"> • Only troubles found in the Verizon network will be included in this metric
Report Structure	Non-Affiliate/Affiliate, Region/State	Non-Affiliate/Affiliate, State
Disaggregation	<ul style="list-style-type: none"> • DS0 (2 Days) - Parity • DS1 (2 Days) - Parity • DS3 Non-Optical (5 Days) - Parity • DS3 Optical (ICB) - Parity • FGD (2 Days) - Parity 	<ul style="list-style-type: none"> • DS0 • DS1 • DS3 • OCn

Repair Intervals

	Verizon's Understanding of Bell South's Proposal	Verizon Proposal - DRAFT 06/15/04
Designator	MAD2: Average Repair Interval	Mean Time to Restore
Definition	The Average Repair Interval is the average duration of customer trouble reports, measured from the receipt of the customer trouble report to the time the trouble report is closed. The average outage duration is expressed in hours for completed circuit-specific trouble reports.	The average duration time from the time the trouble was received until the time the trouble was cleared.
Exclusions	<ul style="list-style-type: none"> • Trouble tickets issued and subsequently canceled • Employee initiated trouble reports. • Customer Provided Equipments (CPE) or other customer caused troubles • Reciprocal Services • Tie Circuits • BS troubles associated with administrative service • Troubles outside of BS control. 	<ul style="list-style-type: none"> • Trouble tickets issued and subsequently canceled • Customer Provided Equipments (CPE) or other carrier or end-user caused troubles • VZ troubles associated with administrative service • Employee initiated trouble reports • No Trouble Found (NTF) and Test OK (TOK)
Business Rules	<ul style="list-style-type: none"> • Only customer direct trouble reports, which require physical repair work by BS, will be counted in this report. • The average duration is calculated for each restored trouble report. • The start time begins with the receipt of the trouble report and ends with the clearance of the that report. • Customer hold time or delay maintenance time resulting from verifiable situations of no access to the end user premise, other CLEC/IXC or BS Aggregate caused delays, such as holding the ticket open for monitoring, is deducted from the total resolution interval. 	<ul style="list-style-type: none"> • Only troubles found in the Verizon network will be included. • The average duration is calculated for each restored trouble report. • The start time begins with the receipt of the trouble report and ends with the time the circuit was restored. • Customer hold time resulting from verifiable situations of no access to the end user premise, other CLEC/IXC, VZ Aggregate, or end user caused delays, such as holding the ticket open for monitoring, is deducted from the total resolution interval.
Report Structure	Non-Affiliate/Affiliate, Region/State	Non-Affiliate/Affiliate, State
Disaggregation	<ul style="list-style-type: none"> • DS0 (2 Days) - Parity • DS1 (2 Days) - Parity • DS3 Non-Optical (5 Days) - Parity • DS3 Optical (ICB) - Parity • FGD (2 Days) - Parity 	<ul style="list-style-type: none"> • DS0 • DS1 • DS3 • OCn