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

In the Matter of	)	
	)	
Performance Measurements and	)	
Standards for Unbundled Network	)	CC Docket No. 01-318
Elements and Interconnection	)	
	)	
Performance Measurements and Reporting	)	
Requirements for Operations Support	)	CC Docket No. 98-56
Systems, Interconnection, and Operator	)	
Services and Directory Assistance	)	
	)	
Deployment of Wireline Services Offerings	)	CC Docket No. 98-147
Advanced Telecommunications Capability	)	
	)	
Petition of Association for Local	)	
Telecommunications Services for Declaratory	)	CC Docket Nos. 98-147, 96-98,
Ruling	)	98-141

COMMENTS OF SBC COMMUNICATIONS INC.

INTRODUCTION AND SUMMARY

SBC strongly supports the FCC's goals of furthering competition while minimizing regulatory burdens.[1] SBC supports establishing a limited set of performance measurements that

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[1] *In the Matter of Performance Measurements and Standards for Unbundled Network Elements and Interconnection; Performance Measurements and Reporting Requirements for Operations Support Systems, Interconnection, and Operator Services and Directory Assistance; Deployment of Wireline Services Offering Advanced Telecommunications Capability; Petition of Association for Local Telecommunications Services for Declaratory Ruling*, CC Docket Nos. 01-318, 87-56, 98-147, 98-86 and 98-141, Notice of Proposed Rulemaking, FCC 01-331 (rel. Nov. 19, 2001) (*NPRM)* at ¶5. The FCC emphasizes its

will further the Commission's stated goals in this proceeding of fostering facilities-based competition while minimizing regulatory burdens.[2] Although the Commission has proposed twelve performance measurements, SBC proposes nine performance measurements, which are more consistent with the Commission's goal of reducing regulatory burdens on incumbent carriers and still capture the critical aspects of wholesale performance. However, irrespective of the precise number of measures the Commission adopts, these measures will not reduce regulatory burdens if they simply become an overlay, or "add-on," to existing state requirements. Therefore, to achieve its stated goal of establishing a more targeted set of performance measures, the Commission must, with *one caveat,* ensure that these measures supplant any additional or different measures that have been adopted by the states.

The one caveat is that, for purposes of evaluating section 271 applications that are pending (either at the Commission or before a state commission) at the time the Commission adopts national measurements, federal and state regulators should continue to rely on any state performance measures established for purposes of that evaluation. A number of states, at the urging of the Commission, have invested substantial resources in adopting state measurements, and it would be disruptive to all concerned to displace such measurements while a section 271 proceeding is ongoing. Indeed, the injection of any new performance measures into an on-going section 271 proceeding would unnecessarily delay the evaluation of that application. Accordingly, any federal performance measurements established in this proceeding should supplant pre-existing state measures that were established for use in a section 271 proceeding only when that proceeding has been resolved.

To the extent that a local exchange carriers (LEC) has entered into an interconnection agreement that contains a performance measurement plan, the LEC's obligations with regard to

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intention to focus this Notice "on access to those facilities fundamental to competitors, particularly as they pertain to new facilities-based entrants." *Id.*

[2] *NPRM* at ¶¶3-5.

performance measurements would continue to be defined by that agreement without regard to any performance measures adopted in this proceeding. Of course, to the extent that agreement contains a change of law clause, either party to the agreement could invoke that clause to conform the contractual performance measurement plan to any rules the Commission here adopts.

Although SBC believes that a limited and targeted set of national performance measurements would be preferable to the patchwork of measures that now exist, SBC opposes the establishment of one-size fits all performance standards and remedies.[3] There are too many variations in business and regulatory conditions for national standards to be appropriate or lawful. Indeed, the Commission itself has recognized that it is not appropriate to establish, specific, objective criteria for what constitutes "substantially the same time and manner" or "a meaningful opportunity to compete." Thus, standards and remedies should be established through negotiation. In the absence of a negotiated agreement, states may arbitrate performance standards. Neither federal nor state regulators, however, have the authority to establish remedies to which parties to an agreement do not voluntarily agree.

In summary, if the Commission determines that a core set of measures are the ones that are essential to further promote facilities-based competition, it must necessarily also conclude that any other measures would be excessive and burdensome. To prevent the reemergence of the current "regulatory patchwork," the Commission must ensure that the performance measurements (and governing business rules) identified as essential are the only ones that can guide either Federal or State regulators. Absent strong and clear direction from the FCC on this

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[3] In the NPRM, the Commission states that its use of the term performance standards incorporates the term "business rules." NPRM, 1, n. 2. However, as the Commission itself acknowledges, business rules constitute "the detailed specifications of the way data are to be collected, measured, and reported (including what should be excluded, how data should be aggregated, and what statistical tests should apply). Thus the term "business rules," properly conceived, refers to the specifications for performance measures – *i.e.,* performance data. *Id.* In contrast, performance standards refer to specific benchmarks or goals. Thus, by its use of the term "business rules," SBC refers to performance measurements, not standards. *Id.*

issue, it would be entirely unrealistic to expect that a consistent uniform set of performance measurements will be adopted in every state.

I. The Commission Should Adopt a Core Set of Performance Measurements for Evaluating Incumbent LEC Compliance with the Standards of the 1996 Act.

A. In the Absence of Clear Direction from the Commission, Incumbent LECs Have Been Subjected to a Patchwork of Divergent and Costly Performance Measurements.

In section 251(c) of the 1996 Act, Congress sought to facilitate competition in local telephone markets by requiring incumbent LECs to provide competitors a variety of inputs used in the provision of local telecommunications services. These inputs include interconnection, access to unbundled network elements, and collocation. Each of these inputs must be provided in a manner that is "just, reasonable, and nondiscriminatory."[4] In the *Local Competition Order*, the Commission found that this standard requires an incumbent LEC to provide inputs on terms and conditions that are equivalent to those it imposes on itself and third parties, and which provide an efficient competitor a meaningful opportunity to compete.[5] However, the Commission provided no guidance on how to evaluate compliance with this standard.

In subsequent proceedings, the Commission repeatedly has stated that performance measurement and reporting requirements provide a useful tool for determining whether an incumbent LEC is providing nondiscriminatory access to UNEs and interconnection in accordance with section 251.[6] Indeed, the Commission initiated a proceeding specifically to

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[4] 47 U.S.C. §§ 251(c)(2), (c)(3) and (c)(6).

[5] *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, First Report and Order, 11 FCC Rcd 15499, 15612, 15658 (1996) (*Local Competition Order*).

[6] *See, e.g., Application of Ameritech Michigan Pursuant to Section 271 of the Communications Act of 1934, as amended, to Provide In-Region, InterLATA Services in Michigan*, CC Docket No. 97-137, Memorandum Opinion and Order, 12 FCC Rcd 20543, para. 393 (1997)(*Ameritech Michigan 271 Order*) (performance monitoring "provides a mechanism by which to gauge a BOC's present compliance with its obligation to provide access and interconnection to new

consider adoption of performance measurements as a means for analyzing an incumbent LEC's performance of its statutory obligations.[7] However, the Commission has not acted on the *OSS Notice*, nor has it provided clear guidance regarding the appropriate scope and content of performance measurement plans.

In the absence of clear direction, states and private parties have been left to devise performance-monitoring plans through negotiation and arbitration of myriad interconnection agreements and other state proceedings. The result, as the Commission recognizes, is a proliferation at the state and federal levels of "increasingly divergent and costly requirements on carriers."[8] SBC's experience demonstrates just how burdensome and costly these requirements have become.

In 1997, SBC was the first BOC to voluntarily negotiate a performance-monitoring plan with the Department of Justice. Under that plan, SBC developed and implemented a set of 66 performance measurements, which were to be used in section 271 applications to demonstrate compliance with SBC's obligations under section 251 and the competitive checklist in section 271. The Texas PUC expanded those measurements to 131 performance measurements and required SBC to adopt a penalty plan as a condition for its support for SBC's 271 application for

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entrants in a nondiscriminatory manner"); *Application of BellSouth Corp. et al. Pursuant to Section 271 of the Communications Act of 1934, as amended, To Provide In-Region, InterLATA Services in South Carolina*, CC Docket No. 97-208, Memorandum Opinion and Order, 13 FCC Rcd 539 (1997); and *Application by SBC Communications Inc. et al., Pursuant to Section 271 of the Telecommunications Act of 1996 to Provide In-Region, InterLATA Services in Texas*, CC Docket No. 00-65, Memorandum Opinion and Order, 15 FCC Rcd 18354, para. 53 (2000) (*SBC Texas 271 Order)* ("Performance measurements are an especially effective means of providing us with evidence of the quality and timeliness of the access provided by a BOC to requesting carriers.").

[7] *Performance Measurements and Reporting Requirements for Operations Support Systems, Interconnection, and Operator Services and Directory Assistance*, CC Docket No. 98-56, Notice of Proposed Rulemaking, 13 FCC Rcd 12820 (1998) (*OSS Notice*).

[8] *OSS Notice* at ¶4.

Texas. SBC has included a performance measurement and remedy plan based on the Texas model in its standard section 271 agreements in Kansas, Oklahoma, Arkansas and Missouri.

As of January 2002, those plans included between 105 and 119 separate performance measurements, with between 659 and 2,084 sub-measurements. Each of these measures and sub-measures must be tracked on a CLEC-by-CLEC basis, resulting in a staggering number of data points (submeasures times CLECs per state). In the Southwestern Bell region, for example, SBC was required to have systems capable of tracking between 83,693 (in Arkansas) and 689,804 (in Texas) measures and data points. In California, the state commission has approved a performance plan that includes a set of 44 measures and 1715 sub-measures. In Nevada, SBC has offered the same set of 44 measures, with 710 sub-measures. On a CLEC-by-CLEC basis, as of January 2002, SBC had to have systems capable of tracking 13,490 data points in Nevada and 222,950 data points in California. In the Ameritech region, SBC has implemented a set of performance measurements that are based on the Texas model, but which include additional measurements developed in state-sponsored collaborative sessions with CLECs. As of January 2002, SBC's performance monitoring plans in the Ameritech region included 150 measurements and between 1904 and 3, 137 sub-measures, depending on the state. In all, SBC had to have systems capable of tracking a low of 221,792 data points in Wisconsin and a high of 511,168 data points in Illinois. In addition, SBC has implemented the so-called "FCC 20" performance plan pursuant to the SBC/Ameritech Merger Conditions. This plan contains 20 performance measurements and between 346 and 1050 sub-measurements, depending on the state

In total, SBC tracks nearly three million data points (tracking each sub-measure for each CLEC operating in each of SBC's states translates into approx. 3 million data points) and generates approximately 25,000 pages of performance measurement results per month. In addition, SBC has had to deploy new systems (including hardware and software) and assign approximately 435 people, working full-time, to complete this task. The total cost of this effort is over $33 million per year. These sums do not take into account the monies expended to

develop and deploy the systems, and procedures for tracking, calculating, and reporting performance measurements results.

Many of the measures and sub-measures to which SBC is subject under one performance plan duplicate measures applicable under other plans. The result, as the Commission correctly observes, is a "regulatory patchwork" that, rather than facilitating compliance and enforcement of the Act, actually "makes it harder . . . and more costly [for] both the industry and the Commission."[9] These divergent requirements also complicate the 271 process by forcing the Commission and parties to expend unnecessary time and resources debating and resolving issues regarding compliance with performance measurements that have little impact on competition in the market. The costs of these myriad requirements thus far outweigh "any reasonably expected benefits" from their implementation.[10]

B. A Limited Set of National Performance Measurements that are Critical to Competition Would be Consistent with the Letter and Spirit of the 1996 Act.

SBC agrees with the Commission that adoption of a core set of national performance measures, if properly implemented and limited to those measurements critical to competition, could rationalize these divergent requirements in an efficient way and further the procompetitive, deregulatory objectives of the Act. National measurements would better promote the market-opening objectives of the Act by focusing regulators, incumbent carriers, and competitors on those facilities and services that are most critical to competition. National measures also would facilitate enforcement by providing regulators and carriers clear guidance on how to analyze whether an incumbent LEC is providing interconnection and access to UNEs consistent with its statutory obligations.

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[9] *Notice* at ¶3.

[10] *Id.* at ¶6.

Adopting a narrow set of national performance measurements also would promote the other primary objective of the Act — eliminating unnecessary and burdensome regulatory requirements.[11] Very few of the myriad performance measurement and reporting requirements currently in place are critical "to competition and [the Commission's] enforcement efforts.[12] To the contrary, these measurements are often duplicative and gauge functions that have little bearing on the ability of CLECs to compete effectively. It is beyond serious dispute that a narrower and more targeted set of performance measures would be more consistent with the Act's deregulatory objectives.

Elimination of excessive performance measures is particularly critical because implementation of each measurement imposes significant costs on incumbent LECs and on regulators alike. Incumbent LECs must deploy the systems and personnel necessary to gather, input, review and validate performance data, as well as to prepare reports for multiple CLECs and regulatory commissions. As noted, SBC spends over $33 million per year complying with its existing performance measurement requirements. Likewise, regulators must expend time and resources analyzing these performance reports. In light of these costs, the Commission should require incumbent LECs to implement a particular performance measurement only if, on balance, the measure is critical to the promotion of facilities-based competition and its benefits exceed the additional costs to carriers and regulators of adding the requirement.[13]

C. National Performance Measures Should Supplant the Existing Patchwork of State and Federal Regulation.

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[11] The Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996), *codified at* 47 U.S.C. §§151 *et seq.* (1996 Act) (declaring that the goal of the 1996 Act was "to promote competition *and reduce regulation* in order to secure lower prices and higher quality services for American telecommunications consumers") (emphasis added).

[12] *Notice* at ¶33.

[13] *Id.* at ¶6.

Subject to one caveat, the Commission should make clear that any set of performance measurements it adopts is intended to supplant the existing "regulatory patchwork" of state and federal performance measurements and plans, and that states cannot adopt inconsistent requirements. The fundamental premise of the Commission's proposal is that it can identify and establish a core set of national performance measurements that incorporates those measures necessary to facilitate competition and enforcement of an incumbent LEC's obligations under sections 251 and 271 of the Act.[14] Thus, by definition, any performance measurement that is critical to competition and/or enforcement will be included on the list.

At the same time, a decision by the Commission not to include a particular measurement on the list necessarily represents a determination that the measure is not critical to competition, and therefore is superfluous. A state requirement that an incumbent LEC implement such a measure therefore would impose substantial regulatory burdens with little or no competitive benefit, contrary to the deregulatory goals of the Act and this Commission.

The Commission clearly has authority to supplant inconsistent state performance measurement plans. In passing the 1996 Act, Congress overhauled telecommunications regulation by establishing a pro-competitive and deregulatory national policy framework.[15] Congress, moreover, granted the Commission authority to adopt regulations to implement that framework, and, in particular, the requirements of section 251 of the Act.[16] The Supreme Court has confirmed this authority.[17] Indeed, it noted that a regime in which 50 different states

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[14] *Id.*.at ¶27 ("The list is intended to cover activities that could be relatively easily measured and that appear to be particularly critical to carriers' ability to compete effectively . . . the measurements set forth for comment in this Notice seek to gauge, in a minimally burdensome way, an incumbent LEC's overall performance in its role as a wholesale provider of both facilities and services, as contemplated by the Act.").

[15] Joint Statement of Managers, S. Conf. Rep. No. 104-230, 104th Cong., 2d Sess., at 1 (1996).

[16] 47 U.S.C. § 251(d)(1).

[17] *AT&T Corp. v. Iowa Utils. Bd.*, 119 S. Ct. 721, 730 n. 6 (1999).

implement federal standards, such as the nondiscrimination obligations in section 251(c) of the Act, would be "surpassing strange."[18] The Commission thus has authority to adopt regulations to implement, and guide state commission administration of, the requirements of section 251, including the obligation of incumbent LECs to provide nondiscriminatory interconnection and access to UNEs.

In light of the time and resources state commissions have expended in developing performance measurement and remedy plans and the huge disparity between the Commission's proposals in this proceeding and existing state requirements, it is highly improbable that state commissions will replace existing plans with any the Commission may adopt, certainly in the near term. Thus, unless the Commission supplants inconsistent or more expansive state performance measurements, incumbent LECs will continue to be subject to multiple, inconsistent, and redundant regulatory regimes. Indeed, national measurements simply would add to the already enormous burden on incumbent LECs of complying with inconsistent state and federal regulatory requirements. The Commission therefore should make clear that states cannot impose different or more expansive performance measurements than those on the national list.[19]

The one *caveat* is that, in evaluating a section 271 application that is pending before the Commission or a state commission at the time the Commission adopts national measures, federal

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[18] *Id.*

[19] Of course, as is the case with all requirements adopted pursuant to section 251, parties would remain free to voluntarily negotiate a mutually acceptable set of performance measurements that differs from those established by the Commission. However, where parties could not so agree, the states would be bound to apply the uniform, national list to any future, arbitrated interconnection agreement. With respect to an enforcement mechanism, which will be discussed in more detail below, both this Commission and the states are limited to in their statutory authority to impose any "self-executing" remedies or penalties. Any such enforcement mechanism must afford the ILECs both procedural and substantive due process, absent the ILECs' voluntary agreement to a self-executing remedy plan.

and state regulators should continue to utilize state performance measures created for purposes of that evaluation. It would be unnecessarily disruptive to the section 271 process to alter the performance measurements used in the evaluation of a section 271 application during the midst of a state or federal section 271 proceeding. Indeed, such a change could delay the timely review of such application. Therefore, any federal performance measures adopted herein should supplant state measures only after any section 271 proceeding pending in that state has been completed

II. Comments on the Proposed Performance Measurements.

Although SBC supports the establishment of national performance measurements that are "critical to competition," three of the performance measurements proposed by the Commission do not satisfy this criterion. In particular, one of the proposed ordering performance measurements (Percentage of Jeopardies) and two of the proposed provisioning measurements (Missed Appointments and Open Orders in Hold Status) go beyond what is necessary to assess incumbent LEC compliance with its nondiscrimination obligations, and therefore are not critical to carriers' ability to compete effectively. On the other hand, SBC agrees that, nine core performance measurements would appropriately be included in any national set of performance measurements. SBC discusses below why these nine specific performance measurements would best further the Commission's objectives in this proceeding.[20]

A. Pre-Order Measurement.

In the NPRM the Commission seeks comment on whether it should require ILECs to establish an "OSS Pre-Order Interface Response Times" performance measure that would gauge whether ILEC pre-ordering systems "provide reasonably prompt response times in a manner that

[20] SBC proposed national performance measurements are set forth in Attachment A.

affords competitors a meaningful opportunity to compete."[21]. SBC agrees with the Commission that a pre-ordering performance measure could appropriately be included in a limited set of national performance measures. SBC's proposed measurement ("Percent Pre-order Responses Received Within the Specified Interval") would provide the Commission with a comprehensive assessment of ILECs' pre-ordering performance. SBC's proposed "percentage based" measurement would provide specific information about the percentage of time state-mandated performance standards with respect to pre-ordering are met by the ILEC. This measure is better than an "average-based" measure because results for the latter would be distorted due to the differing pre-ordering systems employed by ILECs. These system differences can be more readily accounted for by a measurement that assesses the percentage of time that the system utilized returns a response within the state commission's specified interval. If the Commission adopts this pre-order measurement it need not adopt exclusions for weekends, holidays, and hours outside of the normal reporting period (i.e. normal business day hours) provided that the Commission clarify that, in calculating response times, ILECs need only include processing performed during published hours of interface availability. Moreover, to the extent an ILEC is required to shut down an interface for scheduled maintenance, repair or system upgrade, such downtime should be excluded from the measurement. In addition, the Commission should clarify that an ILEC's obligation is limited to the delivery of pre-ordering information to the CLEC or its designated agent. Any delays caused by the designated agent or any subsequent processing by the CLEC or its agent should not be attributed to the ILEC and thus must be excluded from any pre-ordering measurement.

B. Order Status Measurements

The FCC offers for comment three order status measurements ("Order Notifier Timeliness", "Order Completion Notifier Timeliness", and "Percentage of Jeopardies") that it

[21] *NPRM* at ¶36.

suggests would enable it to evaluate whether UNEs and collocation are being provided in a nondiscriminatory manner.[22] It asks whether these measures strike a balance between furthering its goal of eliminating discrimination and minimizing burdens imposed on ILECs.

SBC agrees that performance measures relating to the delivery of order confirmation notices could appropriately be included in a national set of performance measures.[23] However, SBC believes that modified versions of only two of the FCC's suggested measures are relevant to carriers' ability to compete effectively – the "Order Notifier Timeliness" and the "Order Completion Notifier Timeliness."

1. Order Notifier Timeliness

The Commission first asks whether ILECs should measure the amount of time it takes them to send a notice confirming whether an order placed by a competing carrier has been accepted and indicating the date on which the requested service will be provisioned ("FOC Timeliness") and the amount of time they require to notify the competing carrier that an order has been rejected ("Reject Timeliness").[24] SBC agrees that a performance measure of FOC Timeliness would be appropriate, and to that end, it proposes a "Percent Firm Order Confirmation (FOCs) Returned on Time for LSR/ASR Requests" measurement. However, it opposes as unnecessary a Reject Timeliness measure. A Reject Timeliness measure is unnecessary because reject orders are generated by the same systems as FOCs. Indeed, rejects generally are returned more quickly than FOCs because they require less processing. Thus, the timely return of FOCs almost invariably demonstrates the timely return of reject orders. Because

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[22] *NPRM* at ¶37.

[23] *NPRM* at ¶37.

[24] *NPRM* at ¶39.

a key goal of this proceeding is to minimize regulatory burdens by eliminating unnecessary performance measures, the Commission should not establish measures both for FOCs and reject orders.

2. Order Completion Notifier Timeliness

A second Order Status measurement on which the Commission seeks comment is the "Order Completion Notifier Timeliness" measurement. An order completion notice can serve two purposes – (1) to inform a CLEC that the ILEC completed the installation of the service requested by the particular order and that the CLEC is now responsible for the customer's care; and (2) to inform the CLEC when it may begin billing that customer.[25]

SBC agrees that a performance measure addressing the timeliness with which CLECs receive order completion notices would appropriately be included in a national set of performance measures. Accordingly, the Commission should adopt SBC's proposed measurement "Percent Mechanism Service Order Completion (SOC) Notifications Available Within One Day of Work Completion," which directly addresses the Commission's concerns that untimely receipt of order completion notices might adversely affect CLECs.[26] This measurement specifies that completion notices should be received within one day following UNE installation, since not every ILEC is able to record the precise time (to the hour) that an order is completed.

The only exclusions to SBC's proposed measures are weekends, holidays, and which are not generally considered normal business days. In addition, for CLECs relying on a Service

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[25] *NPRM* at ¶41.

[26] *NPRM* at ¶41.

Bureau Provider (SBP), the ILEC's performance will exclude the SBP's processing, availability, or response time, as these are circumstances over which the ILEC has no control.[27]

Furthermore since the order completion notice would serve a dual purpose of notifying a CLEC that its customer care and billing obligations have begun there is no need for the Commission to adopt a separate measurement for billing.[28] A billing timeliness measurement would be duplicative, and thus should not be included in the core set of national measurements.

3. Percentage of Jeopardies

The third Order Notifier Timeliness measurement suggested by the Commission is "Percentage of Jeopardies." The Commission, upon suggesting this measurement, questions whether it is important for customers to receive advance notice that an appointment will be missed and, if so, whether the ILECs should measure the number of orders with missed due dates that receive advance jeopardy notices. The Commission asks further whether it should establish a measurement that would enable CLECs to determine whether "a significantly higher percentage of [their] orders are placed in jeopardy" than ILEC orders.[29]

SBC believes that it would be neither practicable nor productive to establish a performance measure relating to "jeopardy notices." Although SBC tries to give advance notice of orders that are in jeopardy, the reality is that it sometimes is not possible to do so. For example, if a technician encounters a delay that could not reasonably have been anticipated late-in-the-day, that delay may cause the technician to miss any subsequent appointments. Despite good faith, the technician would not be in a position to provide advance notice that those

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[27] *NPRM* at ¶41.

[28] *NPRM* at ¶42.

[29] *NPRM* at ¶44.

appointments were in jeopardy, and it would be arbitrary and unfair to hold the ILEC responsible for failing to provide a jeopardy notice. Moreover, measuring the extent to which ILECs provide jeopardy notices could have unanticipated distorting effects on carrier behavior. Particularly since measures relating to jeopardy notices would seem to be far less useful than measures proposed by the Commission and supported by SBC that relate to the actual timeliness of provisioning, SBC urges the Commission to reject its proposed jeopardy measure.

C. UNE provisioning measures.

In the *NPRM*, the Commission proposes five provisioning measurements, which it believes would facilitate evaluation of whether an ILEC provisions competitors' orders within the same period of time and at the same quality of service as the ILEC's own orders. These measurements are: (1) Percentage On Time Performance, (2) Average Delay Days on Missed Installation Orders, (3) Installation Quality, (4) Percentage Missed Appointments, and (5) Open Orders on Hold Status.[30] SBC believes that the first three of these measures are appropriately included in any national set of performance measures. The later two, however ("Percentage Missed Appointments and Open Order on Hold Status"), are not critical to evaluating whether an ILEC is provisioning orders consistent with its nondiscrimination obligations under section 251. The proposed Percentage Missed Appointments measurement is redundant to the proposed Percentage On Time Performance measurement, and therefore unnecessary. The Open Orders on Hold Status likewise is unnecessary because such orders would be counted as misses in the Percentage On Time performance measurement.

(1) Percentage On Time Performance/Missed Appointments

SBC agrees that any limited set of performance measures should include a measure of the percentage of CLEC orders that were provisioned on or before the scheduled due date. To the extent the Commission adopts such a measure, SBC proposes that the Commission adopt a

[30] *NPRM* at ¶46.

"Percent Installations Completed by the Committed Due Date" measurement in place of the Commission's proposed "Percentage On Time Performance" and "Percentage Missed Appointments" measures.[31] This measure already is reported in SBC's states, and, consequently, the metric and business rules already are well defined and understood by all parties.

Like the Commission's proposed Percentage On Time Performance Measure, SBC's metric identifies the percentage of orders completed by the committed due date. This measure also captures missed appointments because any time an ILEC misses an appointment, it also will miss a due date.[32] The Percentage Missed Appointments measurement therefore is redundant, and its inclusion in the Commission's list of performance measures would be inconsistent with the Commission's goal of identifying only those measures that are critical to competition.

SBC disagrees that a performance measures that captures percentage of due dates missed would give incumbent LECs the ability to "set due dates further into the future so as to mask poor performance."[33] There is no such risk for the simple reason that ILECs have standard intervals for UNE installation orders. These intervals generally are established through state regulatory proceedings, and, in any event, are made known to CLECs. Consequently, an ILEC generally could not unilaterally change standard intervals, and, even if it could, the change immediately would be apparent to CLECs and regulators alike.

Any performance measure for due dates missed should apply to three types of orders: new connect (N), change (C) orders, and transfer (T) orders. Other orders should be excluded because they do not entail the provision of new service to a CLEC or its customer.[34]

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[31] *NPRM* ¶¶48-51, 59-61; Attachment A, p. 5

[32] *Notice* at ¶59.

[33] Appendix A, p. 5; *NPRM* at ¶49

[34] *NPRM* at ¶50.

If a CLEC submits a supplemental LSR requesting to extend a due date beyond the date to which the ILEC had committed, the supplemental due date, if acceptable and confirmed by the ILEC, would establish the relevant installation interval for this measurement. On the other hand, if an ILEC agrees to an installation interval that is shorter than the standard interval, such performance data should be excluded. Otherwise, an ILEC would be punished for attempting to accommodate a CLEC, thereby reducing an incentive to do so.

Certain exclusions should apply to this measurement. In particular, the measurement should exclude customer caused missed due dates, including "customer not ready" (CNR) and "no access" (NA) situations.[35] As the Commission seems to recognize, ILECs should not be held accountable for due dates that they miss through no fault of their own.

Due dates missed because of CNR and NA situations should be excluded irrespective of whether they are verified by the competitive carrier.[36] SBC makes available to CLECs on a monthly basis raw data for each performance measurement. For "Percent UNE Installations Completed by the Committed Due Date," SBC provides, not only data regarding any due dates that are counted as "misses," but also data regarding misses that are excluded, including CNR and NA situations. If a CLEC believes that exclusion was in error, it can so inform SBC and SBC will engage in data reconciliation procedures with the CLEC to resolve the issue. If the exclusion was, in fact, in error, SBC will restate the data. As discussed below, if the CLEC is dissatisfied with the results of the reconciliation process and believes that the reported data are materially inaccurate, the CLEC can request an audit, subject to a "loser pays" requirement. By deferring resolution of disputes to the reconciliation process (and, if requested, an audit), this

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[35] Attachment A, p. 5.

[36] *Notice* at ¶50.

procedure permits timely reporting of performance data, while ensuring CLECs the ability to challenge the data if they disagree.[37]

SBC's proposed installation measure also excludes NPAC ("Number Portability Administration Center") caused installation delays, unless the missed due date was caused by SBC. This exclusion is only applicable to orders involving LNP. Since the NPAC is not an SBC controlled center, any delay or missed due date caused by the NPAC should not be attributed to SBC. Clearly the intent of performance measurements is to identify the performance provided to CLECs by the ILEC and not outside agencies.

Finally, the Commission should not adopt a separate performance measurement for Percentage Missed Appointments Due to Lack of Facilities.[38] Appointments missed due to a lack of facilities are like any other missed due date, and will be counted as such in SBC's proposed Percent Installations Completed by the Committed Due Date measure. Consequently, there is no reason to require an ILEC to measure and report due dates missed due to lack of facilities separately from any other missed due dates.

(2) <u>Average Delay Days on Missed Installation Orders</u>

A limited set of performance measures also could include a measure of the Average Delay Days on Missed Installation Orders. As the Commission recognizes, this measure could provide additional information relevant to assessing the extent to which an ILEC meets its non-discrimination obligations under section 251.

As with a performance measure for missed due dates, and for the reasons discussed above, a performance measure addressing the average amount of time by which due dates are missed should include only C, T and N orders, and should be measured in terms of calendar days. In addition, this measure should be limited to delays that are attributable solely to the

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[37] Weekends and holidays also are excluded from SBC's proposed UNE provisioning measurement since these days are not regarded as normal business days.

[38] *Notice* at ¶60.

ILEC. For example, if an ILEC is ready to complete installation on the day after the due date, but the customer or CLEC is not, any additional delay should not count against the ILEC's performance.

The Commission also requests comments regarding whether "a more comprehensive view of provisioning may be achieved" by comparing the average installation interval requested by CLECs to the average interval offered by ILECs and the actual average installation interval for CLEC UNE orders.[39] None of these comparisons is necessary where ILECs (such as SBC) offer standard installation intervals prescribed by a state commission. These standard offered intervals reflect state commissions' views and expectations regarding the appropriate installation intervals required to provide CLECs a meaningful opportunity to compete in various state markets. Under the circumstances, a more accurate assessment of performance is the "Percent Installations Completed by the Committed Due Date."

(3) <u>Installation Quality</u>

A third performance measure relating to provisioning that appropriately could be included in a limited set of performance measures is a measure of the percentage of completed orders for which CLECs file trouble reports within a given time. As the Commission recognizes, this measurement would permit an assessment of the quality of the installation work performed by ILECs.

The Commission seeks comment specifically on whether ILECs should calculate the percentage of loops or circuits installed where a reported trouble was found in the network within 30 days after completion of an order.[40] SBC does not believe that the Commission should specify any particular time period (*e.g.* 30 days) in this performance measurement. The specific time frame should instead be left to the states, which can determine the appropriate interval for different types of loops (*e.g.* high cap versus voice grade loops). As a substitute for

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[39] *NPRM* at ¶52.

[40] *NPRM* at ¶55

the Commission's proposed Installation Quality measure, SBC therefore suggests that the Commission establish a "Percent UNE Trouble Reports Within 'X' Days of Installation" measurement. This latter measurement has been used for years by a number of SBC companies, and during that time the business rules have been refined through collaboration with state regulators and various CLECs. There is no reason for the Commission to reinvent the wheel now.

SBC's proposed installation quality measurement would include trouble reports created on the day that the service order is completed.[41] Any trouble report that occurs after installation is complete – even those on the date of completion – is included in this measure.

SBC sets forth in Attachment A proposed exclusions for this performance measure. These exclusions generally cover those trouble reports that do not directly provide pertinent information regarding the quality of UNE loops installed for CLECs.[42] In addition, they include subsequent trouble reports (trouble reports received while an existing repair report is open on the same telephone number, or loop)[43] and trouble reports received before service order completion. Subsequent reports are additional trouble reports for the same problem on a loop that is in the process of being repaired. Including this type of trouble report in a quality of installation measurement would result in double counting. Trouble reports received before service order completion provide no information regarding the installation quality of UNE loops for which service orders have been completed. The only way to have a meaningful measurement is to allow the service to be completed before a trouble ticket is counted.

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[41] *NPRM* at ¶56; Attachment A, p. 6.

[42] *NPRM* at ¶57; Attachment A, p. 6.

[43] The Commission explicitly requests comments regarding the appropriate treatment of subsequent reports in defining an installation quality measurement. *NPRM* at ¶57.

Installation quality performance results should not be affected by trouble reports caused by customer provided equipment, inside wiring, Interexchange Carrier and/or Competitive Access Provider activities and facilities, and Informational tickets.[44] None of these conditions is caused by ILEC installation work or the quality and condition of the ILEC's network. Since they are outside the ILEC's control, they should be excluded.

Trouble reports associated with UNE loops for which CLECs have chosen not to engage in cooperative testing also should be excluded. Diagnostic or cooperative testing generally will reveal problems with the loop that could be corrected before an installation ticket is closed. If a CLEC chooses to forego such testing, the ILEC should not be penalized if trouble subsequently is reported on the line in question. Thus, SBC's proposed exclusions also include all installation trouble reports associated with BRI loops without test access, 2-wire and IDSL capable loops for which CLECs have decided that available digital testing capabilities were unnecessary, and stand alone DSL loops and DS1 loops for which CLECs decide acceptance or cooperative testing is unnecessary.

In addition, trouble reports associated with UNE loops that are not conditioned to conform with typically accepted industry standards and guidelines also are excluded. . For example, installation trouble reports are excluded for DSL loops over 12,000 feet long with load coils, repeaters, and/or excessive bridged tap for which CLECs decide conditioning is unnecessary. An ILEC should not be penalized if a CLEC decides to dismiss an ILEC's recommendations for conditioning certain UNE loops to meet typically accepted standards. If a CLEC desires to test the limits of a service, SBC will provision the service as requested. However, if the service does not function correctly, SBC should not be held accountable for any resulting inferior performance (and corresponding trouble reports), since the CLEC did not follow SBC's recommendation.

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[44] Informational tickets are issued based on requests for information, such as requests for directories, requests to bury cable, or reports on non-SWBT facilities.

(4) Open Orders in Hold Status

SBC disagrees that a limited set of performance measurements should include a measure of the percentage of circuits that are past the committed due date as of the end of the reporting period (Open Orders in Hold Status). The Commission seems to assume that open orders on hold status would not be covered by the Percentage On Time Performance measurement. However, an order could not be in hold status unless the ILEC has missed an appointment, which would be counted as a miss in SBC's proposed "Percent Installations Completed by the Committed Due Date." Because the measurement is duplicative, SBC's own measure is more useful.

D. Maintenance and Repair Measurements.

The Commission suggests three performance measures in the area of maintenance and repair: (a) Trouble Report Rate; (b) Repeat Trouble Report Rate; and (c) Time to Restore.[45] SBC agrees that the three measures proposed by the Commission, subject to the slight modification discussed below, could appropriately be included in a national set of performance measures. These measures allow for an accurate determination of whether ILECs provide repair and maintenance functions to CLECs in a non-discriminatory manner without imposing excessive regulatory burdens on ILECs.

1. Trouble Report Rate

The FCC asks, first, whether ILECs should measure the percentage of provisioned loops or circuits with troubles reported within a certain period of time. SBC agrees that, as a general matter, this measure is potentially useful insofar as it would enable CLECs to determine on an

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[45] *NPRM* at ¶¶ 65-72. The Trouble Report Rate is offered to measure the "percentage of provisioned loops or circuits with troubles reported within a certain period of time." *NPRM* at ¶67. The Repeat Trouble Report Rate is offered to measure the "percentage of trouble tickets that are repeat trouble tickets, generated within a 30-day period." *NPRM* at ¶69. Finally, Time to Restore is offered to measure ILEC "promptness in restoring services after a competing carrier refers a problem to it for resolution." *NPRM at* ¶71.

ongoing basis whether their customers experience more incidents of trouble than ILEC end users. The Commission should ensure, however, that any such measure does not include trouble reports that are the specific focus of other performance measures. In particular, this measure should not include repeat trouble reports or trouble reports within "X" days of installation (the proposed Installation Quality measure). Because both types of reports are captured in other performance measures, to include them in a "Trouble Report Rate" measure would result in double counting and subject ILECs to the possibility of a double penalty for a single violation. Such redundancy would be inconsistent with the goal of creating a more targeted, carefully crafted set of performance measures and of minimizing ILEC regulatory burdens. Accordingly, to clarify the scope of the "Trouble Report Rate" measure proposed by the Commission, SBC proposes, in the alternative, a "Trouble Report Rate Net of Installation and Repeat Reports" performance measure. Notably, any entity desiring to calculate an overall or "aggregate" trouble report rate would be able to do so with a high degree of accuracy by extrapolating from data reported in this measure along with data from the "Repeat Trouble Report Rate" and "Trouble Reports Within 'X' Days of Installation" measures.

The method for calculating, and the exclusions that apply to SBC's proposed Trouble Report Rate Net of Installation and Repeat Reports are included in Attachment A.[46] Similar to its proposed "Installation Quality" measure, SBC's proposed Trouble Report Rate Net of Installation and Repeat Reports measure does not include trouble reports associated with UNE loops for which an ILEC is unable to provide diagnostic testing to ensure loops continuously function at quality levels. Therefore, this measure does not include trouble reports associated with unbundled BRI loops without test access. This proposed measure also does not include

[46] *NPRM* at ¶68; Attachment A, p. 8. In response to the Commission's request for comments regarding the period of time over which this measure should be report, SBC's proposed "Net Trouble Report" measure would require counting trouble tickets in the month during which they post in WFA.

trouble reports resulting from a lack of digital testing capabilities on unbundled 2-wire and IDSL-capable loops where acceptance testing is available, but not selected by CLECs.[47]

The Commission also mentions "incumbent LEC-reported administrative troubles" as potential information that should not be included.[48] SBC agrees that, by definition, such administrative trouble reports should not be included in performance measures relating to trouble reports. Administrative trouble tickets are unrelated to both competitors and competition. Only competitive carrier originated trouble tickets should be included in any performance measures relating to trouble reports.

In addition, trouble reports associated with UNE loops that, despite ILEC recommendations, are not conditioned to conform with network standards should not be included in any trouble report measure. Thus, trouble tickets associated with DSL loops with lengths greater than 12,000 feet that include load coils, repeaters, and excessive bridged tap for which a CLEC did not authorize conditioning should not be included in any trouble report rate performance measure.[49]

Furthermore, an ILEC's maintenance and repair performance results should not be affected by trouble reports caused by CPE, inside wiring, IXC, or CAP activities or facilities. Nor should informational reports be included. These types of reports are beyond the ILEC's control and are completely unrelated to the quality and condition of UNE loops provided to CLECs, and, therefore, are not included in SBC's proposed Trouble Report Rate Net of Installation and Repeat Reports measure.

2. Percent UNE Repeat Trouble Reports

SBC agrees with the Commission's suggestion that a measure for Repeat Trouble Report Rate should be included in any set of national performance measures adopted by the

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[47] A discussion of the rationale for these exclusions has been presented above.

[48] *NPRM* at ¶68.

[49] A discussion of the rationale for this exclusion is presented above.

Commission.[50] SBC's proposed "Percent UNE Repeat Reports" measure defines a repeat trouble report as a CLEC trouble ticket **that** is received within "X" calendar days of a previous trouble ticket Relatively short time intervals are essential to the definition of a repeat trouble report. The longer the time interval (such as the suggested 60 or 90 days[51]), the greater the likelihood that a second trouble report affecting a UNE is completely unrelated to the previous trouble report. Alternatively, the shorter the time interval between trouble reports for the same UNE (such as 30 days), the greater the likelihood that the second report is related to the previous trouble report, and thus is, in fact, a repeat trouble ticket. In effect, two sequential trouble reports for the same UNE are more likely to be unrelated if they occur 90 days apart than if they both occur within a 30 day interval. SBC typically uses 10 days for those loops traditionally used for POTS type service (*i.e.*, 8.0 dB loops) and 30 days for all other UNEs typically associated with data services.

In addition, the Percent Repeat Reports measure should not include any reports or information which are not legitimate repeat trouble reports, even though they may be related in some fashion to prior trouble reports. Thus, any subsequent reports associated with a particular trouble ticket but which are not follow-on trouble tickets (*e.g.,* informational reports) should not be included in this measure. In addition, as with the "Trouble Report Rate Net of Installation and Repeat Reports" measure, trouble reports caused by CPE, IXCs, CAPs, and CLECs (*i.e.*, customers), and all trouble reports associated with UNE loops for which CLECs have not authorized test access or have decided not to accept SBC's recommendations regarding loop conditioning should not be included in the calculation of the Percent Repeat Reports measure. Inclusion of these reports would compromise the accuracy of the calculation of the rate of repeat trouble reports, and would paint a false picture of an ILEC's provision of non-discriminatory maintenance and repair functions.

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[50] *NPRM* at ¶¶ 69-70; Attachment A, p. 11.

[51] *NPRM* at ¶70.

3. Time to Restore

SBC also agrees with the Commission's suggestion of a time to restore metric. The definition of this measure suggested by the Commission, however, inappropriately sets the "end point" of the time to restore interval as the time when an ILEC returns a trouble resolution notification to the CLEC.[52] The appropriate end of the interval is the time at which the trouble has been resolved and the service restored. The focus of the measurement is the time it takes the ILEC to resolve the trouble and restore service, *not* the time it takes the ILEC to resolve the trouble, restore service, and inform the CLEC that the trouble has been resolved and service restored.[53] Accordingly, SBC's proposed measure, "UNE Mean Time to Restore," is defined as the average duration of time to restore service, which is the interval from the receipt of a CLEC trouble report to the time the trouble is cleared.[54]

The interval used to calculate the time to restore measure should not include time associated with subsequent reports, NA (No Access) time, delayed maintenance time, trouble reports caused by CPE, IXCs, CAPs, and CLECs, and all trouble reports associated with UNE loops for which CLECs have not authorized test access or have decided not to accept SBC recommendations regarding loop conditioning. SBC should not be held responsible for time delays caused by CLEC or customer failure to provide access to customer premises (provided that SBC technicians arrive at the committed appointment time prepared to resolve a report of

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[52] *NPRM* at ¶72.

[53] CLECs in SBC's operating territory have the ability to monitor the status of their trouble tickets throughout the trouble resolution process. Therefore, a formal notification is not necessary for the CLEC to obtain information related to the trouble report, and there is no need to include any interval associated with CLEC notification in the measure of mean time to restore service.

[54] Attachment A, p. 9.

trouble). Similarly, SBC should not be held responsible for time associated with Delayed Maintenance, which occurs when trouble on a customer's line is intermittent and the customer chooses not to have the circuit removed from service for repair until after business hours. This time should not be included since SBC does not have access to the loop to affect repairs until the customer authorizes release of the circuit. Finally, as discussed in greater detail above, SBC should not be held accountable for time associated with resolution of troubles and outages which SBC did not cause or associated with loops for which CLECs have not authorized test access or have decided not to accept SBC recommendations regarding loop conditioning.[55]

As with all other proposed performance standards, SBC regards state commissions (perhaps in conjunction with the carriers operating within each state) as uniquely qualified to establish appropriate measures such as Mean Time to Restore. Indeed, a "Mean Time to Restore" performance measure is likely the most sensitive to differences across states. The performance under this measure thus should be expected to vary (perhaps significantly) across states, according to differences in weather conditions, terrain, distances (*e.g.*, average loop length), and population density, as well as the age, condition, and characteristics of the plant and network.

Accordingly, SBC would not oppose an alternative definition of this measure as a percentage.[56] Specifically, the time to restore measure could be defined to reflect the percentage of CLEC trouble reports cleared within an established time interval, provided that the time interval is realistically set at the state level.

V. If the Commission imposes an Order Processing Measurement on ILECs, the same measurement should apply to CLECs.

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[55] The rationale for the other exclusions from SBC's proposed UNE Mean Time to Restore measure is discussed fully in the relevant section. ***

[56] *NPRM* at¶72.

The Commission asks whether any of the measurements it may adopt should apply to carriers other than ILECs, including competitive LECs.[57] If the Commission determines that any order processing performance measurements should be applied to ILECs, the Commission should likewise apply them to them all LECs including CLECs. It is arguably more critical to measure CLECs since ILECs are already measured on their provisioning missed due date performance, which includes any order processing delays. This is important for CLEC to ILEC order processing, but equally as important for CLEC to CLEC order processing. The CLEC activity would not only measure the processing time for CLEC to ILEC conversions of service, but also CLEC to CLEC conversions of service. The Commission should consider the impact on CLEC to CLEC competition as a result of delays in order processing.

SBC specifically proposes that, if the Commission adopts a Firm Order Confirmation ("FOC") measurement, it should be applied to all facilities-based LECs, including CLECs. In order for an end user's telephone service to be moved efficiently from one facilities-based LEC to another, the LEC submitting an LSR (i.e., the end user's "new" carrier) must receive a timely FOC from the outgoing LEC. Without a timely FOC, end users may be delayed in receiving service from their LEC of choice and could risk losing dial tone. Unlike the ILEC, a CLEC delay is not accounted for in any performance measurements since a missed due date performance measurement is not applicable to CLECs. If the Commission adopts SBC's proposal or any other proposal on ("Percent Firm Order Confirmations (FOCs) Returned on Time for LSR/ASR Requests") it should apply the measurement to all LECs, including CLECs to promote an equally competitive environment for all carriers while protecting the interests of all end-users.

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[57] *NPRM* at ¶5.

6. Performance measurements for Billing and UNE Loop and Port Combinations are unnecessary.

The Commission's proposed national performance measurements appropriately include neither billing measures nor measurements regarding combinations of UNE loops and ports that are combined by the ILEC.[58] Discussions of billing measures typically center around the potential for double-billing end users and an ILEC's ability to bill CLECs correctly in a timely manner. Combinations of UNE loops and ports combined by the ILEC effectively represent a means for CLECs to resell ILEC local residence and business classes of service at an input price (i.e., the price of the UNE combination) different from the tariffed resale prices associated with these services.

The FCC has previously recognized that no convincing evidence has been presented to indicate double-billing of end users actually occurs or that such a potential problem seriously interferes with opening the local exchange market to competition.[59] In addition, to the extent that ILECs' bills for UNEs are received "late" by CLECs, the cash flow positions of CLECs are improved. CLECs might bill their end users "on time" and not have to pay the ILECs for the capacity and facilities used to serve CLEC customers until a later date. CLEC revenues, therefore, are received before their costs are paid if ILEC bills are "late."

Since the NPRM is intended to focus particularly on facilities-based competition, resale performance measurements are appropriately excluded from the FCC's list of uniform, national performance measurements.[60] Therefore, UNE loop and port combinations that are combined by

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[58] *NPRM* at ¶28.

[59] For example, the Commission has concluded "[W]hile we do not discount the potential harm of double-billing on affected customers, there is insufficient evidence of double billing in this instance to indicate that SWBT's systems process for updating its billing records is discriminatory." *SBC Texas 271 Order* at ¶ 92.

[60] *NPRM* at ¶5.

the ILEC, which effectively constitute CLECs' resale of ILECs' local service, should not be incorporated in a uniform national performance measurement plan. Performance measures directly responsive to checklist item (xiv) – resale consistently have shown excellent ILEC (at least for SBC) performance results. Therefore, resale measures, particularly in any set of uniform national performance measurements, appear unnecessary.

C. National Performance Measurements Should Not Be Disaggregated.

In the NPRM, the Commission asks the parties to identify the appropriate level of disaggregation for each measure.[61] Performance results should be reported on an aggregated for each national performance measurement (i.e. no element or service-specific disaggregations.)[62] Disaggregating performance measurement would increase exponentially the actual number of measurements an ILEC would have to report and thus increase significantly the ILEC's compliance costs. These costs would not be offset by corresponding to CLECs or regulators. Aggregrated data would provide an efficient means to identify whether an ILEC has complied with its nondiscrimination obligations under the Act. And, to the extent that regulators have questions regarding performance for a particular measure, the ILEC could provide product breakdowns for this measurement on an ad-hoc basis. Thus, no product or service-specific disaggregations are necessary.

IV. National Performance Standards Are Contrary to the Act.

While the Commission can and should adopt uniform national performance *measurements* (and related business rules), national performance *standards* are a different matter entirely. Section 251(c) of the Act requires incumbent LECs to provide interconnection and

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[61] *NPRM* at ¶32.

[62] *Id.*

access to UNEs "on rates, terms, and conditions that are . . . nondiscriminatory."[63] This nondiscrimination standard requires that, where there is a retail analogue, an incumbent LEC must provide network elements to CLECs in "substantially the same time and manner" that an incumbent can for itself.[64] Where there is no retail analogue, an incumbent must provide access and interconnection in a manner that allows an efficient competitor a "meaningful opportunity to compete" in the particular market at issue.[65] The 1996 Act thus does not establish minimum service standards or performance requirements.

The Act also does not require an incumbent LEC to redesign its network to provide competitors superior quality access to network elements or interconnection than that which the ILEC provides to itself. To the contrary, the Eighth Circuit repeatedly has held that the Commission cannot mandate superior quality access and interconnection. In its initial review of the Commission's network unbundling and interconnection rules, the court stated:

> Subsection 251(c)(2)(C) requires incumbent LECs to provide interconnection 'that is at least equal in quality to that provided by the local exchange carrier to itself. . . .' Plainly, the Act does not require incumbent LECs to provide its competitors with superior quality interconnection. Likewise, subsection 251(c)(3)

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[63] 47 U.S.C. §§ 251(c)(2), 251(c)(3).

[64] *Application of Ameritech Michigan Pursuant to Section 271 of the Communications Act of 1934, as Amended, to Provide In-Region, InterLATA Services in Michigan*, 12 FCC Rcd 20543, 20619, para. 140 (1997) (*Ameritech Michigan Order*), citing *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, 11 FCC Rcd 15499, 115660, *modified on recon.*, 11 FCC Rcd 13042 (1996), *vacated in part*, *Iowa Utils. Bd. v. FCC*, 120 F.3d 753 (8th Cir. 1997), *aff'd in part, rev'd in part sub nom. AT&T Corp. v. Iowa Utils. Bd.*, 525 U.S. 366 (1999) (*Local Competition Order*); *Application of BellSouth Corporation, BellSouth Telecommunications, Inc., and BellSouth Long Distance, Inc., for Provision of In-Region, InterLATA Services in Louisiana*, CC Docket No. 98-121, Memorandum Opinion and Order, 13FCCRcd20599, para. 87 (1998) (*BellSouth Louisiana II*).

[65] *Ameritech Michigan Order* at para. 141; *BellSouth Louisiana II* at para. 88.

> does not mandate that requesting carriers receive superior quality access to network elements upon demand.[66]

On further review, the court affirmed its prior decision vacating the superior quality rules: "the superior quality rules violate the plain language of the Act. . . . nothing in 47 U.S.C. §§ 154(i), 201(b), or 303(r) gives the FCC the power to issue regulations contrary to the plain language of the Act . . . [and] [n]othing in the statute requires ILECs to provide superior quality interconnection to its [sic] competitors."[67] Because the Act does not require an incumbent LEC to provide superior quality interconnection or access to UNEs, any performance goal or benchmark must be adapted to the unique circumstances and network of the incumbent in question.

However, a "one size fits all" national performance standard could not possibly take into account all the myriad differences in incumbent LEC networks and systems, nor could it account for differences in regulatory environments among the various states. These differences often are substantial, and have a significant impact on network capabilities and performance.[68] Thus, national performance standards inherently would be either too lax (and therefore ineffectual at creating parity) or too strict, establishing requirements that some incumbent LECs could never meet given the capabilities of their networks and systems.

The state-by-state process for negotiation and arbitration of interconnection agreements under section 252 reflects, among other things, the fact that the regulatory environment and

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[66] *Iowa Utils. Bd. v. FCC*, 120 F.3d 753, 812 (8th Cir. 1997), *rev'd in part on other grounds sub nom. AT&T v. Iowa Utils. Bd.*, 525 U.S. 366 (1999).

[67] *Iowa Utils. Bd. v. FCC*, 219 F.3d 744, 758 (8th Cir. 2000), *cert. Granted*, 531 U.S. 1124 (2001).

[68] Indeed, SBC has found that, although each of its regional Bell operating companies were once part of the Bell System, its networks and systems vary significantly not only between regions but sometimes also between states within a particular region. Consequently, performance goals and benchmarks applicable to SBC's operating companies vary from region-to-region and state-to-state.

incumbent LEC networks and systems vary state-to-state, often substantially. What is just, reasonable and nondiscriminatory in one state, may not be in another. Section 252 therefore requires states to determine in a particular instance whether the terms and conditions under which a particular network element or interconnection arrangement is offered and provided are consistent with the Act.

The state-by-state application process under section 271 likewise reflects this reality. Because incumbent LEC networks, systems and operations, and regulatory requirements vary, the Act establishes a state-by-state application process for determining whether the market opening requirements of sections 251 and 271 (including the obligations to provide non-discriminatory interconnection and access to UNEs) have been met. The Commission itself has recognized that "metric definitions and incumbent LEC operating systems will likely vary among states,"[69] and that the showing necessary to demonstrate compliance with section 271 "will vary depending on the individual checklist item and the circumstances of the application.[70] Because national performance standards necessarily assume that systems and conditions are uniform across states, they are flatly inconsistent with the structure of the Act.

V. The Commission lacks the authority to impose self-effectuating liquidated damages for failure to comply with National Performance measurements plan.

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[69] *Application by Bell Atlantic New York for Authorization Under Section 271 of the Communications Act to Provide In-region, InterLATA Services in the State of New York*, 15 FCC Rcd 3953, para. 55 (1999).

[70] *Id.* at para. 53. *See also id.*, Statement of Commissioner Powell (noting that state commission's "have an intimate understanding of the applicant, the local market and the various technical and economic issues surrounding checklist compliance" and that the Commission could not "possibly develop the performance metrics and undertake the technical evaluations that a state commission can").

The Commission has asked for comments as to whether it has the authority to impose a "self-executing liquidated damages rule . . . where failure to comply with [national performance] standards would result in automatic payments to competitors." NPRM ¶22. The Commission has no such authority. Rather, through the explicit language of the Communications Act, Congress has required the Commission to grant significant procedural rights to ILECs (and all other carriers) before any penalty or damages may be assessed against them. The Commission may not circumvent these limits on its authority by creating an alternative compensation scheme out of whole cloth.[71] In this instance, moreover, these statutory limitations are firmly buttressed by the basic due-process principle that a party must have notice and an opportunity to respond in an individualized way before damages are assessed against it.

First, to the extent that the Commission has any authority at all to award CLECs damages for a violation of a local-competition-related performance standard,[72] Congress has specified in section 208 and related provisions the procedures that the Commission must follow. Those

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[71] *See AT&T v. FCC*, 487 F.2d 865 (2d Cir. 1973) (finding that 47 U.S.C. § 154(i) and other general authority provisions in the Communications Act did not give Commission authority to require prior approval of rate changes, because the statute set forth precise procedures and limitations concerning rate revisions); *Southwestern Bell Tel. Co. v. FCC*, 168 F.3d 1344, 1350 (D.C. Cir. 1999) (stating in dicta that section 154(i) did not give Commission authority to circumvent rate-making procedures set forth in another part of the statute); *cf. Ginsberg & Sons, Inc. v. Popkin*, 285 U.S. 204, 208 (1932) ("General language of a statutory provision, although broad enough to include it, will not be held to apply to a matter specifically dealt with in another part of the same enactment."); *HCSC-Laundry v. United States*, 450 U.S. 1, 6 (1981) (per curiam) (holding that "it is a basic principle of statutory construction that a specific statute . . . controls over a general provision").

[72] Since any Commission performance-measure regulations would become binding through implementation in interconnection agreements, state commissions should have authority in the first instance to enforce those provisions. This Commission has specifically held that such enforcement is among a state commission's duties under section 252. *See* Memorandum Opinion and Order, *Starpower Communications, LLC Petition for Preemption of Jurisdiction of the Virginia State Corporation Commission Pursuant to Section 252(e)(5) of the Telecommunications Act of 1996*, CC Docket No. 00-52, 15FCCRcd11277(2000).

procedures are flatly inconsistent with a scheme under which the Commission, on its own motion, would establish a "self-effectuating liquidated damages rule" that imposes automatic fines for the violation of performance standards.

As an initial matter, Congress has made clear that the Commission may award damages *only* in response to a complaint from a private party; *it may not award damages in a proceeding begun on its own motion.* Thus, while section 403 gives the Commission broad authority to "institute an inquiry, on its own motion, . . . as to any matter . . . concerning which complaint is authorized to be made . . . by any provision of" the Act (including section 208), section 403 also expressly *prohibits* the Commission from ordering the payment of damages in such a case: "[t]he Commission shall have . . . the power to make and enforce any order or orders . . . relating to [any matter complained of under the Act] . . . *excepting orders for the payment of money*." 47 U.S.C. 403 (emphasis added). Congress has thus made plain that, absent a complaint from a private party, the Commission cannot order the payment of money damages to a CLEC. That language by itself is conclusive here.

Even if that clear statutory language did not exist, section 208 and related provisions set forth a number of procedural limitations that are inconsistent with an automatic liquidated damages system. In particular, once a section 208 complaint has been filed, the Commission must conduct a hearing before it can issue an order requiring an ILEC to pay damages. *See* 47 U.S.C. § 209 ("If, *after hearing on a complaint*, the Commission shall determine that . . . [a] complainant is entitled to . . . damages . . ., the Commission shall make an order directing [payment] . . . .") (emphasis added); 47 C.F.R. §§ 1.711-1.736. The requirement of a hearing before damages are awarded is obviously inconsistent with the notion of a self-effectuating scheme under which ILECs would be required to pay liquidated amounts without any individualized determination.

Moreover, under the Act, the Commission cannot simply assume that a legal violation has caused damage to a private party, as the Commission would necessarily do in a self-effectuating scheme. Even assuming that a violation of a performance-standard regulation were

tantamount to a violation of the Act – a point that SBC does not concede – the Act requires that a complainant must demonstrate through record evidence that it has suffered specific *damages* as a result of the allegedly unlawful actions. *See* 47 U.S.C. § 206 (recovery under the Act is limited to "the full amount of damages sustained in consequence of [a] violation of the provisions" of the Act, "together with a reasonable counsel or attorney's fee"). The Commission, accordingly, cannot simply assume that the violation of a regulation has resulted in damage; that fact must be proven by each individual complainant in the record of a particular proceeding. *See, e.g.*, *AT&T Co. v. Northwestern Bell Tel. Co.*, 5 FCC Rcd 143, 146 (1989) (concluding that defendant had violated the Communications Act, and was liable to plaintiff "*to the extent it can establish that it was damaged thereby*"); *Teledial America, Inc. v. Michigan Bell Tel. Co.*, 8 FCC Rcd 1151, 1154 (1993) (by violating the Communications Act, carrier rendered itself "liable for damages *to the extent a complainant/customer can establish that it was damaged as a result of the violation*"); *cf.* 47 C.F.R. § 1.722(b) (setting forth procedures by which a complainant can seek damages through a supplemental complaint filed *after* a finding of liability by the Commission).

The requirement that a complainant prove damages in a specific case has special force in this instance. As the Commission has stated time and again in section 271 proceedings, the fact that an ILEC has not met a performance benchmark in a specific instance often does not mean that there has been competitive harm; further, case-specific information is necessary to determine whether there has been such harm. *See*, *e.g.*, *New York Order* ¶¶ 59, 202; *Texas Order* ¶ 58; *Kansas/Oklahoma Order* ¶ 32; *Massachusetts Order* ¶ 13; *Connecticut Order* ¶¶ 12-13; *Pennsylvania Order* App. C, ¶ 8; *Arkansas/Missouri Order* ¶¶ 34, 104.[73]

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[73] The Commission also could not establish a presumption that violations of certain provisions gave rise to certain amounts of damages. Such a broad-brush approach to calculating damages would be inconsistent with section 206, which stipulates that complainants may recover the "amount of damages [they] *sustained* in consequences of any . . violation [of the Act]." 47 U.S.C. § 206 (emphasis added). In any event even if a presumption, the law is clear that any such presumption must be rebuttable on the facts of a specific case. *See Heckler v. Campbell*, 461 U.S. 458, 467 & n.11 (1983) (although an agency may establish guidelines "to determine issues that do not require case-by-case consideration," parties must be permitted to "offer evidence that the guidelines do not apply to them"); *see also United*

Second, and in a similar vein, to the extent that the Commission would seek to establish penalties payable to the United States, Title V provides procedures that are fundamentally incompatible with a self-effectuating enforcement mechanism. Title V states that "no forfeiture penalty shall be imposed under this subsection against any person unless and until" the Commission follows a set of procedures designed to safeguard the rights of carriers. 47 U.S.C. § 503(b)(4). Among other things, under Title V, upon receiving evidence showing that a LEC had not met one or more performance standards, the Commission would be required to issue a "notice of apparent liability" in writing, specifying "each specific provision, term and condition" the LEC had apparently violated, the nature of the act or omission charged, the facts upon which the charge was based, and the date upon which such conduct occurred. *Id*. The Commission would then have to provide a "reasonable period of time," *id*. § 503(b)(4)(C) -- ordinarily 30 days from the date of the Notice of Apparent Liability, *see* 47 CFR § 1.80(f)(3) -- for the LEC to respond to that Notice.

The arguments that a LEC could make in such a response, moreover, are fundamentally incompatible with reliance on a self-effectuating liquidated payment scheme. *See* 47 U.S.C. § 503(b)(4)(C) (noting that a forfeiture penalty may not be assessed until a person has an opportunity to show "why no such forfeiture penalty should be imposed"). A LEC could challenge the factual basis for the forfeiture, claiming, for instance, that the reasons for the failure to meet a standard were beyond its control. Moreover, even if an ILEC conceded the existence of a violation, the Act requires the Commission to consider "remission or mitigation" in this context. 47 U.S.C. § 504(b); *see also* 47 C.F.R. § 1.80, Guidelines for Assessing Forfeitures, Section II. Thus, the Commission's Guidelines for Assessing Forfeitures explicitly note that "[t]he Commission and its staff retain the discretion to issue a higher or lower forfeiture than provided in the guidelines, [or] to issue no forfeiture at all." *Id*. § 1.80, Guidelines for

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States v. Storer Broadcasting Co., 351 U.S. 192, 205-06 (1956); *Association of Oil Pipelines v. FERC*, 83 F.3d 1424, 1439 (D.C. Cir. 1996).

Assessing Forfeitures. Under the 1996 Act, therefore, a LEC is entitled to demonstrate that the facts in its case warrant no forfeiture at all or a reduced one.

Perhaps the best evidence, however, of the lack of compatibility between a self-effectuating mechanism and the Title V scheme that Congress enacted is the following: even *after* a Title V forfeiture is imposed, it is not self-enforcing. Rather, if a carrier declines to pay, the government must bring a "civil suit" to recover the funds; such a civil suit, moreover, would involve a "trial de novo." *See* 47 U.S.C. § 504(a); *Miami MDS Co. v. FCC*, 14 F.3d 658, 661 (D.C. Cir. 1994). A federal district court thus has the power to review both the facts surrounding the alleged violation and the amount of the forfeiture imposed before any money must be paid. *See United States v. Daniels*, 418 F. Supp. 1074, 1080-81 (D.S.D. 1976). The findings and conclusions of the Commission would carry "[no] weight whatsoever" in such a suit. *FCC v. Summa Corp.*, 447 F. Supp. 923, 925 (D. Nev. 1978). In short, the process for requiring forfeitures under section 503[74] is anything *but* self-executing. Congress went to great lengths to constrain the Commission's power in this regard, and the Commission cannot concoct a separate scheme that ignores all of these limitations without violating federal law.[75]

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[74] 47 U.S.C. § 503(b)(3)(A) gives the Commission the discretion to impose a forfeiture not through the NAL process described above, but rather "after notice and an opportunity for a hearing . . . in accordance with section 554 of Title V." However, doing so would involve conducting a full evidentiary hearing under the APA, subject to both the Commission's own panoply of procedures for appeal and review, and to review in the D.C. Circuit. *See* 47 C.F.R. § 1.80(g); 47 U.S.C. § 503(b)(3); *see also* 5 U.S.C. § 554. These procedures are, if anything, more elaborate than the NAL procedures. *See, e.g., Reeve Aleutian Airways, Inc. v. United States*, 982 F.2d 594, 602 (D.C. Cir. 1993) (noting that a full evidentiary hearing can be "extraordinarily burdensome and costly"). The Commission's own regulations provide that "ordinarily," it will impose a forfeiture by means of such a hearing "*only* when a hearing is being held for some reason other than the assessment of a forfeiture." 47 C.F.R. § 1.80(g) (emphasis added).

[75] The statute also does not allow the forfeiture mechanism to be used to require payments to CLECs or other private parties. Section 504(a) of the Communications Act unequivocally states that forfeitures are "payable into the Treasury of the United States." 47 U.S.C. § 504(a); *see also* 31 U.S.C. § 3302(b) ("an official or agent of the Government receiving money for the Government from any source shall deposit the money in the Treasury"). Once forfeited funds are paid into the Treasury, the Commission cannot transfer them to CLECs. Only Congress can authorize payments from the United States Treasury. *See* U.S. CONST., Art. I, § 8; *Scheduled*

These same principles apply to the Commission's power to assess forfeiture upon a 271-approved BOC. Section 271 provides that the Commission may impose monetary penalties only pursuant to Title V. *See* 47 U.S.C. § 271(d)(6)(A)(ii). Thus, the Commission would have to follow the forfeiture procedures even with respect to post-271 BOCs.

Finally, important due process principles undergird these statutory limitations on the Commission's authority and prevent the Commission from imposing a liquidated damages provision that is truly "automatic." *NPRM* at ¶22. Due process requires that LECs have an "opportunity to be heard at a meaningful time and in a meaningful manner" before being finally deprived of a property interest. *Matthews v. Eldridge*, 424 U.S. 319, 333 (1976) (internal quotation marks omitted). SBC must have "an opportunity to present every available defense." *American Surety Co. v. Baldwin*, 287 U.S. 156, 168 (1932).

These principles would be violated by a liquidated damages scheme that was in fact "self-effectuating." Under such a scheme, payments would presumably become due "automatically" upon submission of performance data indicating that SBC had failed to meet particular performance standards. But the scheme would comport with the requirements of due process only if it gave SBC an opportunity to show that such damages were unwarranted in that particular case. SBC would have to be given the opportunity to show, for example, that its failure to comply with a particular standard was the result of circumstances beyond its control. *Cf. Bell Atlantic-GTE Merger Order*, 15 FCC Rcd 14032, 14337, Appendix D, Attachment A, ¶ 14 (providing a *force majeure* exception to voluntary payment scheme); *SBC/GTE Merger Order*, 14 FCC Rcd at 15046, Appendix C, Attachment A, ¶ 14 (same). It would also have to be given the opportunity to show that, even if it had missed a particular performance standard, the presumptive measure of damages was in fact incorrect or unjust given the circumstances of the case: before liability can be imposed, a penalized party must have an opportunity to show that

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Airlines Traffic Offices, Inc. v. Dep't of Defense, 87 F.3d 1356, 1361-62 (D.C. Cir. 1996); *Bell Atlantic Tel. Cos. v. FCC*, 24 F.3d 1441, 1445 (D.C. Cir. 1994); *Dragon v. United States*, 414 F.2d 228, 229 (5th Cir. 1969). And no provision of the Act allows the Commission to make such payments to CLECs.

presumptive rules do not apply in a particular case. *See Heckler v. Campbell*, 461 U.S. at 467 & n.11 (requiring an opportunity for private party to show that general guidelines are inapplicable in a specific case); *United States v. Storer Broadcasting Co*., 351 U.S. 192, 205-06 (1956); *Association of Oil Pipelines v. FERC*, 83 F.3d 1424, 1439 (D.C. Cir. 1996). These requirements would in effect mean that the "automatic" damages provision was not "automatic" at all.

Indeed, even in the contractual context – in which, unlike here, the parties have voluntarily agreed to the measure of damages – courts have nevertheless invalidated liquidated damages clauses that attempt to set a single measure of damages that is invariant to the gravity of a breach. *See, e.g.*, *Kothe v. Taylor Trust*, 280 U.S. 224 (1930) ("agreements to pay fixed sums without reasonable relation to any probable damage which may follow a breach will not be enforced"); *Raffel v. Medallion Kitchens*, 139 F.3d 1142, 1146 (7th Cir. 1998); *Davy v. Crawford*, 147 F.2d 574, 575 (D.C. Cir. 1945); 5 CORBIN ON CONTRACTS § 1066, at 379. These cases support the view that basic principles of due process and fairness require that SBC be given the opportunity to show that actual damages in a particular case differ significantly from those specified under an automatic damages scheme.

VI. IMPLEMENTATION, REPORTING, AND EVALUATION OF NATIONAL PERFORMANCE MEASUREMENTS

A. Implementation Procedures

1. Data Validation and Audits

SBC agrees that LEC's raw data relating to performance measurements should be stored in one or more "secure, stable and auditable" files.[76] These files should be maintained for a reasonable period of time, such as two years. Where there is a dispute regarding the accuracy and/or validity of collected data, the data should be retained until the dispute is resolved.

[76] *NPRM* at ¶ 73.

The Commission should not impose any penalties in the event data inaccuracies are discovered. SBC was the first carrier to develop performance-monitoring plans, and has devoted enormous time and resources to produce the best quality data possible. Indeed, SBC routinely reviews its processes and data to identify and correct any inaccuracies that may occur. Most of the errors previously discovered have been *de minimis* and quickly corrected through restatements. And even if errors are material, they are no more likely to overstate than understate performance. Consequently, no additional penalties are warranted for inadvertent reporting errors.

While SBC agrees with the Commission that performance data "must be valid, accurate and reproducible,[77] there is no need to require that audits be instituted to ensure that business rules are properly implemented, that exclusions are properly taken or that the performance results are properly calculated. The costs of such audits, as well as the required investment of time and personnel by those involved in them, are not offset by any material benefits.

Indeed, in a number of section 271 proceedings the Commission has rejected arguments that unaudited performance data are unreliable. For example, in the Texas 271 proceeding,, multiple Texas CLECs challenged the validity of SWBT's performance data. The Commission correctly rejected those claims, noting that the data had been subject to "scrutiny and review by interested parties" and that "[t]o a large extent, . . . the accuracy of the specific performance data" was not contested.[78] Similarly, Sprint argued in the Kansas/Oklahoma 271 proceedings that SWBT's data were suspect because neither the Kansas Corporation Commission nor Oklahoma Corporation Commission had rigorously reviewed and validated the accuracy of the data. Yet, the FCC rejected Sprint's argument, pointing out that "no competing LEC has demonstrated that SWBT's data are inaccurate" and that "SWBT provides competing carriers with access to their own specific data which acts as an additional check on the accuracy of the

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[77] *NPRM* at ¶73.

[78] *SBC Texas Order ¶ 57.*

data."[79] Finally, in the Arkansas/Missouri 271 proceedings, the Commission emphatically rejected AT&T's attacks on the accuracy of SWBT's data on the same grounds as those it relied on its Texas 271 Order.[80]

SBC, of course, recognizes that CLECs may in good faith have occasion to question the accuracy of an ILEC's performance results for that CLEC. The best and most efficient way to address these situations is through a data reconciliation process that affords a business-to-business opportunity to resolve apparent differences in the performance results compiled by the CLEC and the ILEC. If the ILEC data are not correct, the ILEC should update or restate its results after they are posted. If differences continue to exist even after the reconciliation process, a CLEC's request for an independent audit would not be unreasonable so long as the CLEC absorbs the cost of the audit should the audit show that the ILEC's results for the measurement at issue are substantially correct.

Given SBC's restatement approach, the data reconciliation opportunities afforded CLECs, and the fact that, to date, few material disputes regarding the accuracy of SBC's data have arisen in the 271 context, imposition of an audit requirement to test the accuracy of national performance measurement results would be unwarranted and unjustified. However, if such a requirement is imposed, SBC should not be required to shoulder its costs absent an audit finding that the results for the measurement under analysis were not substantially correct (e.g., if the error would not have caused SBC's performance to move from a "hit" to a "miss").

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[79] *Joint Application by SBC Communications Inc., Southwestern Bell Telephone Company, and Southwestern Bell Communication Services, Inc., d/b/a Southwestern Bell Long Distance for Provision of In-Region of InterLATA Services in Kansas and Oklahoma,* CC Docket No. 00-217, 16 FCC Rcd 6237, para. 278 (2001).

[80] *Joint Application by SBC Communications Inc., Southwestern Bell Telephone Company, and Southwestern Bell Communication Services, Inc., d/b/a Southwestern Bell Long Distance for Provision of In-Region of InterLATA Services in Arkansas and Missouri,* CC Docket No. 01-194, 16 FCC Rcd 20719, para. 18 (2001).

2. Workshops

SBC believes that workshops or other collaborative sessions could be useful to refine any national performance measurements that are adopted. However, they should not be used to develop the initial set of national performance measurements. Give the sheer number of participants (ILECs, CLECs, and regulators) that would be involved, it would be virtually impossible for the parties ever to reach concensus on a limited set of performance measurements. The Commission therefore should adopt an initial set of measurements based on the record in this proceeding.

Given the cost of developing and deploying the systems necessary to implement any set of performance measures, the Commission should not adopt interim national measures. If the Commission nevertheless adopts strict time limits for any implementation workshops (such as 45 days for collaboration and 60 days for dispute resolution), it should require all participating parties to share the cost of the workshops. The Commission should also establish a dispute resolution mechanism using independent, third party arbitration. The Commission should establish clear rules for the resolution of any disputes. These dispute resolution rules must incorporate the Commission's goals of limiting performance measurements to those that are most critical to competition without unnecessarily increasing carrier regulatory burden

3. Periodic Review of Measurements

SBC agrees that the Commission should periodically review and, if necessary, modify any national performance measurements it establishes. SBC proposes that this review be conducted annually. SBC does not believe that the Commission should delegate authority to modify business rules, format of performance reports, and reporting requirements. Any changes to the business rules or associated requirements should be decided by the Commission itself.[81]

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[81] *See* 47 C.F.R. §0.291(g).

B. Reporting Procedures

Performance measurements reports are one of several tools that competing carriers and regulatory agencies may use to determine if an ILEC is providing non-discriminatory access to UNEs and interconnection consistent with its statutory obligations.. To minimize the cost and burdens associated with dispute resolution, and to ensure that the regulatory bodies have access to all data that is the subject of such disputes, the Commission should require that all local exchange carriers gather and retain the requisite data for calculating and verifying performance data. Too often in the past, CLECs have relied in state and federal proceedings on bald assertions and/or anecdotal evidence to support claims of discrimination or inadequate performance. By requiring CLECs to collect and report performance data, the Commission and the state commissions would be in a better position to resolve any disputes that occur.

ILECs should not be required to collect and store data that on a broader group of measures beyond the core set identified by the Commission. The cost to implement systems and processes to collect and store data that "*might" **be*** needed sometime in the future far outweigh the utility of having such data collected and stored for "*possible*" future needs.

SBC proposes that the state level of reporting should be the lowest geographic level of reporting that should be imposed. Some ILECs and CLECs do not have the capability to capture data for smaller geographical areas. Moreover, the cost of modifying and maintaining systems and procedures to track lower levels of granularity than the state level is not justified since the results are likely not to provide much, if any, beneficial information.

Finally, SBC propose quarterly reporting and that the record retention period for the performance data should not exceed two years from date reported. Additionally, due to varying systems used throughout the industry, SBC is opposed to the Commission mandating any particular type of data storage medium.

C. Performance Evaluation and Statistical Issues

If the Commission adopts national performance measurements, it also should adopt related business rules and a uniform statistical methodology to assist in evaluating ILEC performance.[82] As the Commission rightly recognizes, statistical analysis can be useful in determining whether observed differences in performance measurements between an incumbent LEC's own retail customers and competing carriers reflect significant differences in actual performance.[83] However, statistical analysis can also be applied to benchmark standards that are necessitated when there is no retail equivalent to a measured service or facility. A performance result is a single number expressed as an average, percentage or rate. The average can be greatly influenced by a few outliners. If no statistical test is performed that incorporates in its formula the sample size and the dispersion of raw data, the compliance decision may be as random as flipping a coin. SBC sets forth below, statistical methods and principles that should apply as part of any national performance plan.

As an initial matter, statistical tests on small sample sizes (under 10 observations) are not significant and therefore should not be performed.

Large sample tests, which are very useful in massive performance tests, are easy to perform, but are based on probability approximation theory. These tests require specific assumptions to be met by the underlying raw data distributions. When these assumptions are violated, the tests' validity is jeopardized or voided. Most standard statistical tests require that the data follow a particular, bell-shaped distribution called normal or "Gaussian."[84] The parity

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[82] However, SBC advocates that the establishment and enforcement of performance *standards* is, and should remain the responsibility of the States.

[83] NPRM paragraph 89, section V. C., page 39.

[84] ROBERT G. D. STEEL AND JAMES H. TORRIE, PRINCIPLES AND PROCEDURES OF STATISTICS 48 (1980) [hereinafter PRINCIPLES AND PROCEDURES OF STATISTICS].

tests require the two population distributions to be equal. This means in particular that they need to have the same population mean, the same variance, and other characteristics as well. One of the most important assumptions in parity tests based on a normal approximation is the symmetry of the distribution. It is even more important than the equality of variance assumption.

For measurements with highly skewed distributions, such as the time to complete a task (e.g., mean installation interval), a transformation such as taking the natural logarithm of raw observations (with a reasonable shift prior to taking the log) will often bring back the desired symmetry of the distribution. A suitable log transformation has already been developed and implemented in other state plans (e.g., Pacific Bell Decision Model).[85] The recommended log transformation has the following form: $x_{tran} = \ln(x + 0.4*\text{unit})$, where the unit is the smallest possible precision increment in the raw data (e.g., a day, an hour, or a second, or a fraction thereof, for instance 0.1 second). In addition, a transformation may be required also for measurements with very limited range of values, such as binomial data expressed as decimal fractions or percentages.[86]

All the statistical tests should be performed with an overall Type I error rate of 5%. That is, the critical p-value is set for all simultaneous one-sided tests performed in a given month. The actual p-value of a single one-sided test will be determined based on the total number of tests with large sample sizes performed in a given month, as described below.

The following table will be used for determining the critical probabilities that define the Performance Criterion as well as the number of non-compliant measures that may be excused in

[85] Public Utility Commission of the State of California, *Interim Opinion on Performance Incentives*, Appendices C and J, Decision 01-01-037 (January 18, 2001).

a given month. The table is read as follows: (1) determine the number of nondiagnostic measures, which have sample sizes greater than or equal to 30 observations. Let this number be M. (2) Find the value of M in the columns of the table with the heading "M". (3) To the immediate right of the value of M, find the value in the column labeled "F". This is the maximum number of measures that may be failed when there are M measures being evaluated. (4) To the immediate right of F in the column labeled "P" is the critical probability for determining compliance in each statistical test performed on the M measures. Statistical tests that yield probabilities less than this value indicate failures for the sub-measure.

TABLE OF CRITICAL VALUES

M	F	P	M	F	P	M	F	P	M	F	P	M	F	P	M	F	P
1	0	0.010	**71**	8	0.051	**141**	14	0.054	**211**	19	0.054	**281**	23	0.051	**351**	28	0.052
2	1	0.100	**72**	8	0.050	**142**	14	0.054	**212**	19	0.053	**282**	23	0.051	**352**	28	0.052
3	1	0.059	**73**	9	0.059	**143**	14	0.054	**213**	19	0.053	**283**	23	0.051	**353**	28	0.052
4	2	0.141	**74**	9	0.058	**144**	14	0.053	**214**	19	0.053	**284**	23	0.050	**354**	28	0.051
5	2	0.106	**75**	9	0.057	**145**	14	0.053	**215**	19	0.053	**285**	23	0.050	**355**	28	0.051
6	2	0.085	**76**	9	0.056	**146**	14	0.052	**216**	19	0.052	**286**	23	0.050	**356**	28	0.051
7	2	0.071	**77**	9	0.055	**147**	14	0.052	**217**	19	0.052	**287**	24	0.053	**357**	28	0.051
8	2	0.061	**78**	9	0.055	**148**	14	0.052	**218**	19	0.052	**288**	24	0.052	**358**	28	0.051
9	2	0.053	**79**	9	0.054	**149**	14	0.051	**219**	19	0.052	**289**	24	0.052	**359**	28	0.051
10	3	0.093	**80**	9	0.053	**150**	14	0.051	**220**	19	0.051	**290**	24	0.052	**360**	28	0.051
11	3	0.084	**81**	9	0.053	**151**	14	0.051	**221**	19	0.051	**291**	24	0.052	**361**	28	0.050
12	3	0.07	**82**	9	0.05	**15**	14	0.05	**22**	19	0.05	**29**	24	0.05	**36**	28	0.05

[86] PRINCIPLES AND PROCEDURES OF STATISTICS, pp. 233-236.

		6			2	**2**		0	**2**		1	**2**		2	**2**		0
13	3	0.069	**83**	9	0.051	**153**	15	0.055	**223**	19	0.051	**293**	24	0.052	**363**	28	0.050
14	3	0.064	**84**	9	0.051	**154**	15	0.054	**224**	19	0.050	**294**	24	0.051	**364**	28	0.050
15	3	0.059	**85**	9	0.050	**155**	15	0.054	**225**	19	0.050	**295**	24	0.051	**365**	29	0.052
16	3	0.055	**86**	10	0.057	**156**	15	0.054	**226**	20	0.053	**296**	24	0.051	**366**	29	0.052
17	3	0.052	**87**	10	0.057	**157**	15	0.053	**227**	20	0.053	**297**	24	0.051	**367**	29	0.052
18	4	0.077	**88**	10	0.056	**158**	15	0.053	**228**	20	0.053	**298**	24	0.051	**368**	29	0.052
19	4	0.073	**89**	10	0.055	**159**	15	0.053	**229**	20	0.053	**299**	24	0.050	**369**	29	0.052
20	4	0.069	**90**	10	0.055	**160**	15	0.052	**230**	20	0.052	**300**	24	0.050	**370**	29	0.051
21	4	0.065	**91**	10	0.054	**161**	15	0.052	**231**	20	0.052	**301**	24	0.050	**371**	29	0.051
22	4	0.062	**92**	10	0.053	**162**	15	0.052	**232**	20	0.052	**302**	25	0.053	**372**	29	0.051
23	4	0.059	**93**	10	0.053	**163**	15	0.051	**233**	20	0.052	**303**	25	0.052	**373**	29	0.051
24	4	0.057	**94**	10	0.052	**164**	15	0.051	**234**	20	0.051	**304**	25	0.052	**374**	29	0.051
25	4	0.054	**95**	10	0.052	**165**	15	0.051	**235**	20	0.051	**305**	25	0.052	**375**	29	0.051
26	4	0.052	**96**	10	0.051	**166**	15	0.050	**236**	20	0.051	**306**	25	0.052	**376**	29	0.051
27	5	0.070	**97**	10	0.051	**167**	15	0.050	**237**	20	0.051	**307**	25	0.052	**377**	29	0.050
28	5	0.068	**98**	10	0.050	**168**	16	0.054	**238**	20	0.051	**308**	25	0.052	**378**	29	0.050
29	5	0.065	**99**	11	0.056	**169**	16	0.054	**239**	20	0.050	**309**	25	0.051	**379**	29	0.050
30	5	0.063	**100**	11	0.056	**170**	16	0.053	**240**	20	0.050	**310**	25	0.051	**380**	29	0.050
31	5	0.061	**101**	11	0.055	**171**	16	0.053	**241**	21	0.053	**311**	25	0.051	**381**	30	0.052
32	5	0.059	**102**	11	0.055	**172**	16	0.053	**242**	21	0.053	**312**	25	0.051	**382**	30	0.052
33	5	0.057	**103**	11	0.054	**173**	16	0.053	**243**	21	0.053	**313**	25	0.051	**383**	30	0.052
34	5	0.05	**10**	11	0.05	**17**	16	0.05	**24**	21	0.05	**31**	25	0.05	**38**	30	0.05

		5	**4**		4	**4**		2	**4**		2	**4**		1	**4**		2
35	5	0.054	**105**	11	0.053	**175**	16	0.052	**245**	21	0.052	**315**	25	0.050	**385**	30	0.051
36	5	0.052	**106**	11	0.053	**176**	16	0.052	**246**	21	0.052	**316**	25	0.050	**386**	30	0.051
37	5	0.051	**107**	11	0.052	**177**	16	0.051	**247**	21	0.052	**317**	25	0.050	**387**	30	0.051
38	6	0.065	**108**	11	0.052	**178**	16	0.051	**248**	21	0.052	**318**	26	0.052	**388**	30	0.051
39	6	0.063	**109**	11	0.051	**179**	16	0.051	**249**	21	0.051	**319**	26	0.052	**389**	30	0.051
40	6	0.061	**110**	11	0.051	**180**	16	0.050	**250**	21	0.051	**320**	26	0.052	**390**	30	0.051
41	6	0.060	**111**	11	0.050	**181**	16	0.050	**251**	21	0.051	**321**	26	0.052	**391**	30	0.051
42	6	0.058	**112**	12	0.056	**182**	17	0.054	**252**	21	0.051	**322**	26	0.052	**392**	30	0.051
43	6	0.057	**113**	12	0.055	**183**	17	0.054	**253**	21	0.051	**323**	26	0.052	**393**	30	0.050
44	6	0.055	**114**	12	0.055	**184**	17	0.053	**254**	21	0.050	**324**	26	0.051	**394**	30	0.050
45	6	0.054	**115**	12	0.054	**185**	17	0.053	**255**	21	0.050	**325**	26	0.051	**395**	30	0.050
46	6	0.053	**116**	12	0.054	**186**	17	0.053	**256**	22	0.053	**326**	26	0.051	**396**	31	0.052
47	6	0.052	**117**	12	0.054	**187**	17	0.052	**257**	22	0.053	**327**	26	0.051	**397**	31	0.052
48	6	0.051	**118**	12	0.053	**188**	17	0.052	**258**	22	0.053	**328**	26	0.051	**398**	31	0.052
49	7	0.062	**119**	12	0.053	**189**	17	0.052	**259**	22	0.052	**329**	26	0.051	**399**	31	0.052
50	7	0.061	**120**	12	0.052	**190**	17	0.052	**260**	22	0.052	**330**	26	0.050	**400**	31	0.052
51	7	0.059	**121**	12	0.052	**191**	17	0.051	**261**	22	0.052	**331**	26	0.050	**401**	31	0.051
52	7	0.058	**122**	12	0.051	**192**	17	0.051	**262**	22	0.052	**332**	26	0.050	**402**	31	0.051
53	7	0.057	**123**	12	0.051	**193**	17	0.051	**263**	22	0.052	**333**	27	0.052	**403**	31	0.051
54	7	0.056	**124**	12	0.050	**194**	17	0.051	**264**	22	0.051	**334**	27	0.052	**404**	31	0.051
55	7	0.055	**125**	13	0.056	**195**	17	0.050	**265**	22	0.051	**335**	27	0.052	**405**	31	0.051
56	7	0.05	**12**	13	0.05	**19**	17	0.05	**26**	22	0.05	**33**	27	0.05	**40**	31	0.05

		4	**6**		5	**6**		0	**6**		1	**6**		2	**6**		1
57	7	0.053	**127**	13	0.055	**197**	18	0.054	**267**	22	0.051	**337**	27	0.052	**407**	31	0.051
58	7	0.052	**128**	13	0.054	**198**	18	0.053	**268**	22	0.051	**338**	27	0.052	**408**	31	0.050
59	7	0.051	**129**	13	0.054	**199**	18	0.053	**269**	22	0.050	**339**	27	0.051	**409**	31	0.050
60	7	0.050	**130**	13	0.053	**200**	18	0.053	**270**	22	0.050	**340**	27	0.051	**410**	31	0.050
61	8	0.060	**131**	13	0.053	**201**	18	0.052	**271**	23	0.053	**341**	27	0.051	**411**	31	0.050
62	8	0.059	**132**	13	0.053	**202**	18	0.052	**272**	23	0.053	**342**	27	0.051	**412**	32	0.052
63	8	0.058	**133**	13	0.052	**203**	18	0.052	**273**	23	0.052	**343**	27	0.051	**413**	32	0.052
64	8	0.057	**134**	13	0.052	**204**	18	0.052	**274**	23	0.052	**344**	27	0.051	**414**	32	0.052
65	8	0.056	**135**	13	0.051	**205**	18	0.051	**275**	23	0.052	**345**	27	0.051	**415**	32	0.052
66	8	0.055	**136**	13	0.051	**206**	18	0.051	**276**	23	0.052	**346**	27	0.050	**416**	32	0.051
67	8	0.054	**137**	13	0.051	**207**	18	0.051	**277**	23	0.052	**347**	27	0.050	**417**	32	0.051
68	8	0.053	**138**	13	0.050	**208**	18	0.051	**278**	23	0.052	**348**	27	0.050	**418**	32	0.051
69	8	0.053	**139**	14	0.055	**209**	18	0.050	**279**	23	0.051	**349**	28	0.052	**419**	32	0.051
70	8	0.052	**140**	14	0.055	**210**	18	0.050	**280**	23	0.051	**350**	28	0.052	**420**	32	0.051

There are seven different types of performance metrics (measurements) in ILEC performance data and the recommended tests depend on the type of the metric involved. Hence, SBC supports the use of the following statistical tests in the instances discussed below:

A. BENCHMARK AVERAGE:

For benchmark tests for intervals (continuous type data), a one-sample t-test should be used on log-transformed data (and log-transformed benchmark) rather than on raw scores, with

an appropriate shift (see below) for sample sizes above 50. The appropriate formula is as follows:

$$t = \frac{\overline{X}_c - B}{\sigma\sqrt{\frac{1}{n_c}}},$$

where σ denotes the standard deviation, B is the benchmark (i.e., the mean) of the theoretical normalized distribution, and n_c the CLEC sample size. Originally the CLEC standard deviation s_c may serve as the estimate of the unknown σ (hence the t distribution with $n_c - 1$ degrees of freedom rather than the standard normal z distribution in case of a known σ). For sample sizes below 50, a Binomial exact test should be used, and the Null Hypothesis will assume the median of the data equals the benchmark.

B. BENCHMARK PERCENT:

For benchmark tests of proportions, the one-sample Z-statistic for percentages should be used:

$$Z = \frac{p_c - B}{\sqrt{p_c(1 - p_c)\frac{1}{n_c}}},$$

where p_c and n_c denote the CLEC proportion and sample size, respectively. Most telephony percent benchmarks are set close to 0 or 1 and display a limited range on one side of the benchmark. The raw data and the benchmark should be brought back to symmetry by a suitable transformation[87] (such as taking the square root of shifted data for benchmarks very close to 0, especially when zeros are present) prior to performing the test. An alternative to the above Z-test

[87] PRINCIPLES AND PROCEDURES OF STATISTICS, pp. 233-236.

on transformed raw data would be a test based on the binomial distribution with the following form:

$$p - value = 1 - \sum_{x=0}^{x_c - 1} \binom{n}{x} B^x (1 - B)^{n-x}$$

where x_c is the CLEC numerator, n is the CLEC sample size, and B is the benchmark.

C. BENCHMARK RATE AND BENCHMARK COUNT:

In both cases the CLEC numerator x_c could be tested using a Poisson distribution as follows: $p = 1 - SUM(Poisson(x_c - 1, Br * n))$, where the sum is from 0 to $x_c - 1$, Br is the rate benchmark and n is the CLEC sample size. For a benchmark count the formula is as follows: $p = 1 - SUM(Poisson(x_c - 1, Bc))$, where the sum is from 0 to $x_c - 1$ and Bc is the count benchmark.

D. PARITY AVERAGE:

The Student's two-sample t statistic should be used for testing parity interval measurements only for large samples. The large sample requirement is due to several problems involving the normality assumption violation. However, these problems vanish with increasing sample size by virtue of the Central Limit Theorem[88]. The modification of the formula to asymmetric variance is more robust to Type I error deviations in case of real disparity, leading to better Type I/Type II error balancing. However, this modification prohibits the use of this test when the ILEC percentage is 0 or 1. The formulas for the classic and the modified Student's two-sample t statistic are described later in the Modified t-Test section.

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[88] RONALD L. IMAN, A DATA-BASED APPROACH TO STATISTICS: CONCISE VERSION, 203 (1995).

When sample sizes are insufficient to perform the large sample modified t-test, the exact parity test could optionally be performed based on all possible combinations of ILEC and CLEC samples given marginal distributions. The small sample criterion holds when either the ILEC or CLEC sample is smaller than 30.

The exact parity average test is the permutation (or rather combination)[89] test based on the (modified or classic) t statistic. For large samples permutation calculations can be avoided since this statistic will be a Student's t and eventually normal to a good approximation.

E. PARITY PERCENT (PROPORTION):

For parity tests of proportions, a Hypergeometric test (or Fisher's exact test)[90] should be employed when the number of failures (or passes) are less than 1,000 in the CLEC data. When the CLEC number of failures (or passes) is at least 1,000, a Binomial test should be employed. The Binomial test assumes the ILEC retail proportion is constant, but will not affect the test results for large samples. For sample sizes in which the Binomial test is employed, using a fixed ILEC retail proportion will not affect the outcome.

F. PARITY RATE:

In those rare cases for which a metric requires the calculation of a rate which is not a proportion (multiple numerator counts may pertain to the same denominator unit), a Poisson distribution[91] should be used with the ILEC retail mean to test for parity (for all sample sizes). The parity test of the null hypothesis that the mean is stable among ILEC and CLEC lines is

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[89] BRADLEY EFRON AND ROBERT J. TIBSHIRANI, AN INTRODUCTION TO THE BOOTSTRAP, 202 (1993).

[90] PRINCIPLES AND PROCEDURES OF STATISTICS, pp. 504, 521.

[91] PRINCIPLES AND PROCEDURES OF STATISTICS, p. 528.

equivalent to testing the equality of the mean and the variance. The ratio test of the sum of squares to the ILEC mean[92] follows a chi-square distribution with ($n_c + n_i - 1$) degrees of freedom. When extremely small probabilities of a single event are involved, such as a small number of trouble reports on a large number of lines, this problem involves a conditional Poisson distribution which can be related to a binomial distribution, described below as Binomial test for rates.

Log Transformation. For measures of time intervals, except for data where "zeros" are not possible, the raw score distribution should be normalized by taking the natural log of each score after a constant of 0.4 of the smallest unit of measurement is added to each score. For example, if the smallest unit of measurement is an integer, then the added constant would be 1 x 0.4 = 0.4:

$$x_{tran} = \ln(x + 0.4) \tag{1}$$

Similarly, if the smallest unit of measurement is 0.01, then the added constant would be 0.01 x 0.4 = 0.004:

$$x_{tran} = \ln(x + 0.004) \tag{2}$$

Results that are not measures of time intervals should not be transformed.

Modified t-Test. The modified two-sample t-test should be used for all average based parity measures. In particular, the t-test is used to test the following hypothesis about the population means.

$$H_0: \mu_{CLEC} = \mu_{ILEC} \tag{3}$$

The alternative hypothesis is

[92] PRINCIPLES AND PROCEDURES OF STATISTICS, p. 530.

$$H_1: \mu_{CLEC} > \mu_{ILEC} \tag{4}$$

when low means good service. Likewise, The alternative hypothesis is

$$H_1: \mu_{CLEC} < \mu_{ILEC} \tag{5}$$

when high means good service.

The test statistic for the two-sample modified t-test is given as

$$t = \frac{\overline{X}_i - \overline{X}_c}{s_i \sqrt{\frac{1}{n_c} + \frac{1}{n_i}}} \tag{6}$$

where:

X_i = the ILEC sample mean
n_i = the ILEC sample size
s_i = the standard deviation for the ILEC
X_c = the CLEC sample
n_c = the CLEC sample size

The p-value for the modified t-statistic in Equation 6 is determined from Student's t-distribution with degrees of freedom (df = n_i – 1) based only on the ILEC sample size. If the p-value is less than the selected value of α, the result will be deemed not in parity.

Fisher's Exact Test (or Hypergeometric Test) and the Normal Approximation.

Fisher's exact test is to be used for all percentage or proportion parity measures. Fisher's exact test is used to test the following hypothesis:

$$H_0: p_{CLEC} = p_{ILEC} \tag{7}$$

The alternative hypothesis is

$$H_1: p_{CLEC} > p_{ILEC} \tag{8}$$

when low means good service. Likewise, The alternative hypothesis is

$$H_1: p_{CLEC} < p_{ILEC} \tag{9}$$

when high means good service.

The test of the hypothesis in Equation 1 is performed as follows. Let

x_c = number of CLEC failures $\quad$ x_i = number of ILEC failures
n_c = CLEC sample size $\quad$ n_i = ILEC sample size

These statistics can be conveniently summarized in the following 2x2 table.

	Failure	**Success**	**Total**
CLE	x_c	$n_c - x_c$	n_c
ILEC	x_i	$n_i - x_i$	n_i
	$x_c + x_i$	$(n_c + n_I) - (x_c + x_I)$	$n_c + n_i$

The test statistic is $T = x_c$. The exact distribution of T when the null hypothesis is true is given by the hypergeometric distribution whose probability is given as:

$$P(T = x_c) = \frac{\binom{n_c}{x_c}\binom{n_i}{x_i}}{\binom{n_c+n_i}{x_c+x_i}} \quad x_c = 0,1,\ldots,\min(n_c, x_c + x_i) \tag{10}$$

The p-value for the one-tailed alternative given in Equation 8 is defined as $P(X \geq x_c) = 1 - P(X \leq x_c - 1)$, which is found by use of Equation 10 as:

$$p - value = 1 - \sum_{x=0}^{x_c-1} \frac{\binom{n_c}{x}\binom{n_i}{x_i+x_c-x}}{\binom{n_c+n_i}{x_c+x_i}} \tag{11}$$

Defined below are performance results that are too large to calculate with the Fisher's exact test:

- For percentage-based measures where low values signal good service, Fisher's Exact Test shall be applied to all problems for which the CLEC numerator is less than 1000 "hits." The Z-test shall be applied to larger results.

- For percentage-based measures where high values signal good service, the analysis is the same but is applied to the "misses" as opposed to the "hits." The Fisher's Exact Test

shall be applied whenever the denominator minus the numerator is less than 1000 for the CLEC result. The Z-test shall be applied to larger results.

The modified Z-test (or normal approximation) for proportions is given as follows:

- $$Z = \frac{p_i - p_c}{\sqrt{p_i(1-p_i)\left(\frac{1}{n_c}+\frac{1}{n_i}\right)}} \tag{12}$$

where:

p_c = the CLEC proportion p_i = the ILEC proportion
n_c = the CLEC sample size n_i = the ILEC sample size

Note that when the ILEC proportion is 0 or 1, the nonpooled proportion Z test cannot be performed. Therefore, SBC proposes the use of pooled proportion in place of the ILEC proportion (the "textbook Z" test for proportions):

$$Z = \frac{p_i - p_c}{\sqrt{p(1-p)\left(\frac{1}{n_c}+\frac{1}{n_i}\right)}}, \quad \text{where} \quad p = \frac{n_i p_i + n_c p_c}{n_i + n_c}. \tag{13}$$

Binomial Exact Test for parity rate measures. The binomial test is used to test the following hypothesis:

$$H_0: r_{CLEC} = r_{ILEC} \tag{14}$$

The alternative hypothesis is

$$H_1: r_{CLEC} > r_{ILEC} \tag{15}$$

when low means good service. Likewise, The alternative hypothesis is

$$H_1: r_{CLEC} < r_{ILEC} \tag{16}$$

when high means good service.

The test of the hypothesis in Equation 1 is performed as follows. Let

x_c = number of CLEC failures x_i = number of ILEC failures
n_c = CLEC sample size n_i = ILEC sample size

These statistics can be conveniently summarized in the following 2x2 table.

	Failure	**Success**	**Total**
CLE	x_c	$n_c - x_c$	n_c
ILEC	x_i	$n_i - x_i$	n_i
	$x_c + x_i$	$(n_c + n_i) - (x_c + x_i)$	$n_c + n_i$

The estimate of the probability of a CLEC observation is

$$\hat{p} = \frac{n_c}{n_c + n_i} \tag{17}$$

and the overall sample size of all failures is $n = x_c + x_i$. Observing x_c failures given n trials follows a binomial distribution with a single failure probability p estimated by Equation 17.

The p-value for the one-tailed alternative given in Equation 15 is defined as $P(X \geq x_c) = 1 - P(X \leq x_c - 1)$ or

$$p - value = 1 - \sum_{x=0}^{x_c - 1} \binom{n}{x} p^x (1-p)^{n-x} \quad .$$

1. BENCHMARK AVERAGE:

For benchmark tests for intervals, a one-sample t-test should be used for sample sizes above 200. For sample sizes below 200, a Binomial exact test (see below) should be used, and the Null Hypothesis will assume the median of the data equals the benchmark. However, for measures of time intervals, except for data where "zeros" are not possible, the t-test calculations should be performed on log transformed data (and log transformed benchmark) rather than on raw scores (see below). If the performance raw data is normalized, the threshold sample size for

performing Binomial test rather than t-test can be lowered to 50. The appropriate formula should be the following:

,

where $\sigma\sqrt{\frac{\ }{n_c}}$ denotes the standard deviation, B the benchmark of the theoretical distribution, and n_c the CLEC sample size. Originally the CLEC standard deviation s_c may serve as the estimate of unknown σ. The problem usually lies in setting appropriate benchmark at the critical value level – it requires statistical analyses of historical data prior to the implementation of the test and a continuing verification of this estimate. Both standard deviation estimate and the benchmark may become outdated as the service level changes in time. If historical evidence is sufficient to set an absolute benchmark, the statistical testing may be abandoned altogether.

2. BENCHMARK PERCENT:

For benchmark tests of proportions, the one-sample Z-statistic for percentages should be used:

$$Z = \frac{p_c - B}{\sqrt{p_c(1-p_c)\frac{1}{n_c}}},$$

where p_c and n_c denote CLEC proportion and sample size, respectively.

3. PARITY AVERAGE:

Due to several problems involving the normality assumption violation and Type I error/Type II error balancing robustness in case of real disparity, the modified Z (or Student's t) two-sample statistic should be used for testing parity interval measurements for large samples. However, when sample sizes are insufficient to perform the large sample modified Z-test the exact parity test should be performed based on all possible combinations of ILEC and CLEC

samples given marginal distributions. The small sample criterion holds when either ILEC or CLEC sample is smaller than 30.

The exact parity average test is the permutation (or rather combination) test based on the Z statistic. For large samples, permutation calculations can be avoided since this statistic will be normal (or Student's t) to a good approximation.

4. PARITY PERCENT (PROPORTION):

For parity tests of proportions, a Hypergeometric test (or Fisher's exact test) should be employed when sample sizes are less than 1,000 for both the ILEC retail and CLEC data. When either the ILEC retail or CLEC sample size is greater than or equal to 1,000, a Binomial test should be employed. The Binomial test assumes the ILEC retail proportion is constant, but will not affect the test results for large samples. For sample sizes in which the Binomial test is employed, using a fixed ILEC retail proportion will not affect the outcome.

5. PARITY RATE:

In those rare cases for which a metric requires calculation of a rate which is not a proportion (multiple numerator counts may pertain to the same denominator unit), a Poisson distribution should be used with the ILEC retail mean to test for parity (for all sample sizes).

a. Log Transformation.

For measures of time intervals, except for data where "zeros" are not possible, the raw score distribution should be normalized by taking the natural log of each score after a constant of 0.4 of the smallest unit of measurement is added to each score. For example, if the smallest unit of measurement is an integer, then the added constant would be 1 x 0.4 = 0.4:

$$x_{tran} = \ln(x + 0.4) \qquad (1)$$

Similarly, if the smallest unit of measurement is 0.01, then the added constant would be 0.01 x 0.4 = 0.004:

$$x_{tran} = \ln(x + 0.004) \qquad (2)$$

Results that are not measures of time intervals should not be transformed.

b. Modified t-Test.

The modified two-sample t-test should be used for all average based parity measures. In particular, the t-test is used to test the following hypothesis about the population means.

$$H_0: \mu_{CLEC} = \mu_{ILEC} \qquad (1)$$

The alternative hypothesis is

$$H_1: \mu_{CLEC} > \mu_{ILEC} \qquad (2)$$

when low means good service. Likewise, The alternative hypothesis is

$$H_1: \mu_{CLEC} < \mu_{ILEC} \qquad (3)$$

when high means good service.

The test statistic for the two-sample modified t-test is given as

$$t = \frac{\overline{X}_i - \overline{X}_c}{s_i \sqrt{\frac{1}{n_c} + \frac{1}{n_i}}} \qquad (4)$$

where:

X_i = the ILEC sample mean
n_i = the ILEC sample size
s_i = the standard deviation for the ILEC
X_c = the CLEC sample
n_c = the CLEC sample size

The p-value for the modified t-statistic in Equation 4 is determined from Student's t-distribution with degrees of freedom (df = n_I – 1) based only on the ILEC sample size. If the p-value is less than the selected value of α, the result will be deemed not in parity.

c. Fisher's Exact Test (or Hypergeometric Test) and the Normal Approximation.

Fisher's exact test is to be used for all percentage or proportion parity measures. Fisher's exact test is used to test the following hypothesis:

$$H_0: p_{CLEC} = p_{ILEC} \tag{1}$$

The alternative hypothesis is

$$H_1: p_{CLEC} > p_{ILEC} \tag{2}$$

when low means good service. Likewise, The alternative hypothesis is

$$H_1: p_{CLEC} < p_{ILEC} \tag{3}$$

when high means good service.

139. The test of the hypothesis in Equation 1 is performed as follows. Let

x_c = number of CLEC failures x_i = number of ILEC failures

n_c = CLEC sample size n_i = ILEC sample size

These statistics can be conveniently summarized in the following 2x2 table.

	Failure	**Success**	**Total**
CLE	x_c	$n_c - x_c$	n_c
ILEC	x_i	$n_i - x_i$	n_i
	$x_c + x_i$	$(n_c + n_I) - (x_c +$	$n_c + n_i$

The test statistic is $T = x_c$. The exact distribution of T when the null hypothesis is true is given by the hypergeometric distribution whose probability is given as:

$$P(T = x_c) = \frac{\binom{n_c}{x_c}\binom{n_i}{x_i}}{\binom{n_c+n_i}{x_c+x_i}} \quad x_c = 0,1,\ldots,\min(n_c, x_c + x_i) \tag{4}$$

The p-value for the one-tailed alternative given in Equation 7 is defined as $P(X \geq x_c) = 1 - P(X \leq x_c - 1)$, which is found by use of Equation 9 as:

$$p - value = 1 - \sum_{x=0}^{x_c - 1} \frac{\binom{n_c}{x}\binom{n_i}{x_i + x_c - x}}{\binom{n_c + n_i}{x_c + x_i}} \tag{5}$$

Below SBC defines performance results that are too large to calculate with the Fisher's exact test as measures that exceed the following values:

- For percentage-based measures where low values signal good service, Fisher's Exact Test shall be applied to all problems for which the CLEC numerator is less than 1000 "hits." The Z-test shall be applied to larger results.
- For percentage-based measures where high values signal good service, the analysis is the same but is applied to the "misses" as opposed to the "hits." The Fisher's Exact Test shall be applied whenever the denominator minus the numerator is less than 1000 for the CLEC result. The Z-test shall be applied to larger results.

The modified Z-test (or normal approximation) for proportions is given as follows:

$$Z = \frac{p_i - p_c}{\sqrt{p_i(1 - p_i)\left(\frac{1}{n_c} + \frac{1}{n_i}\right)}} \tag{6}$$

where:

p_c = the CLEC proportion $\quad$ p_i = the ILEC proportion
n_c = the CLEC sample size $\quad$ n_i = the ILEC sample size

Note that when the ILEC proportion is 0 or 1, the pooled proportion Z test cannot be performed. Therefore, SBC proposes the use of pooled proportion in place of the ILEC proportion, that is, the "textbook Z" test for proportions:

$$Z = \frac{p_i - p_c}{\sqrt{p(1 - p)\left(\frac{1}{n_c} + \frac{1}{n_i}\right)}}, \quad \text{where} \quad p = \frac{n_i p_i + n_c p_c}{n_i + n_c}. \tag{7}$$

d. Binomial Exact Test for parity rate measures.

The binomial test is used to test the following hypothesis:

$$H_0: r_{CLEC} = r_{ILEC} \tag{1}$$

The alternative hypothesis is

$$H_1: r_{CLEC} > r_{ILEC} \tag{2}$$

when low means good service. Likewise, The alternative hypothesis is

$$H_1: r_{CLEC} < r_{ILEC} \tag{3}$$

when high means good service.

The test of the hypothesis in Equation 1 is performed as follows. Let

x_c = number of CLEC failures x_i = number of ILEC failures

n_c = CLEC sample size n_i = ILEC sample size

These statistics can be conveniently summarized in the following 2x2 table.

	Failure	**Success**	**Total**
CLE	x_c	$n_c - x_c$	n_c
ILEC	x_i	$n_i - x_i$	n_i
	$x_c + x_i$	$(n_c + n_i) - (x_c +$	$n_c + n_i$

The estimate of the probability of a CLEC observation is

$$\hat{p} = \frac{n_c}{n_c + n_i} \tag{4}$$

and an overall sample size of all failures is $n = x_c + x_i$. Observing x_c failures given n trials follows binomial distribution with a single failure probability p estimated by Equation 4.

The p-value for the one-tailed alternative given in Equation 2 is defined as $P(X \geq x_c) = 1 - P(X \leq x_c - 1)$ or

$$p - value = 1 - \sum_{x=0}^{x_c - 1} \binom{n}{x} p^x (1-p)^{n-x} \quad . \tag{5}$$

VIII. Other Issues

The NPRM seeks further comment on the issues in CC Docket Nos. 98-147 and 96-98 regarding the 90-day collocation provisioning period.[93] SBC opposes the 90-calendar day interval and any action to shorten it, for the reasons stated in its prior comments. SBC hereby incorporates by reference those comments.[94]

[93] NPRM at ¶12.

[94] *SBC Motion to Substitute Corrected Petition for Reconsideration*, in CC Docket Nos. 98-147 and 96-98, filed October 11, 2000. *SBC Comments*, in CC Docket Nos. 98-147 and 98-86, filed October 12, 2000. *SBC Petition for Conditional Waiver*, in CC Docket No. 98-147, filed October 17, 2000. *SBC Reply Comments*, in CC Docket Nos. 98-147 and 98-96, filed November 14, 2000.

RESPECTIVELY SUBMITTED,

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