Decision **DRAFT DECISION OF ALJ REED** (Mailed 11/21/2001)

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking on the Commission's Own Motion into Monitoring Performance of Operations Support Systems.	Rulemaking 97-10-016 (Filed October 9, 1997)
Order Instituting Investigation on the Commission's Own Motion into Monitoring Performance of Operations Support Systems.	Investigation 97-10-017 (Filed October 9, 1997)

OPINION ON THE PERFORMANCE INCENTIVES PLAN

TABLE OF CONTENTS

Title **Page**

TABLE OF CONTENTS

TABLE OF APPENDICES

OPINION ON THE PERFORMANCE INCENTIVES PLAN

I. Summary

By this decision, the California Public Utilities Commission (Commission or CPUC) adds the final piece to implement an operations support systems (OSS) performance incentives plan. This plan will provide incentives for the incumbent local exchange carriers (ILECs) to give competitors equitable access to their OSS infrastructure. The plan consists of performance measurements established in Decision (D.) 01-05-087, performance criteria established in D.01-01-037, and the monetary incentives we now adopt. The plan measures, evaluates, and imposes monetary charges on an ILEC for OSS performance which could inhibit competition by disadvantaging the competitive local exchange carriers (CLECs).[1]

In this decision, we have established the following: (1) limits to the ILECs' "risk"[2] for poor OSS performance to CLECs and their customers; (2) how incentive payment amounts will be tied to different performance results and how payments will increase as performance worsens; (3) who will receive the incentive payments; (4) necessary adjustments to the statistical performance assessment model; and (5) other provisions necessary to complete a performance incentives plan appropriate for an initial implementation period.

As we explained in D.01-01-037, the Telecommunications Act of 1996 (TA96 or the Act) has guided the process of opening previously monopolistic local telephone service markets to competition. To foster competition, the act

[1] Payments would be made to individual CLECs and the ratepayers, as discussed, *infra.*

[2] The total payment amounts generated by the performance incentives plan.

requires ILECs to provide competing carriers access to ILEC OSS infrastructure, including the incumbents' pre-ordering, ordering, provisioning, maintenance, billing, and other functions necessary for providing various telephony services. For competition to occur, the CLECs must be able to access these services in the same manner as the ILEC.

For example, for pre-ordering, a CLEC must be able to access customer information relevant to the service being ordered, so that the CLEC can tell its customers what options they have. For ordering, a CLEC needs to be sure that the ordering process for its customers takes no more time than for ILEC customers. Similarly, for provisioning, a CLEC needs to be sure that the time the ILEC takes to actually install or provide a new telephone service for CLEC customers is no longer than for ILEC customers. Delays or inaccuracies in these and the other OSS functions could discourage potential customers from doing business with the competitors.

Under its authority to implement the Act, the Federal Communications Commission (FCC) has strongly encouraged establishment of regulatory incentives to ensure ILEC OSS performance does not present barriers to competition. While not an outright prerequisite for FCC approval of Regional Bell Operating Companies' (RBOC or BOC) applications to provide in-region interLATA service under § 271, the FCC has indicated that such applications must be in the public interest. In its evaluation of the public interest, the FCC states that, "the fact that a BOC will be subject to performance monitoring and enforcement mechanisms would constitute probative evidence that the BOC will continue to meet its section 271 obligations and that its entry would be consistent

with the public interest."[3] As a consequence, we establish a performance incentives plan to identify and prevent or remove any competitive barriers. The three critical steps for any performance incentives plan are performance measurement, performance assessment, and the corrective actions necessary if performance is deemed harmful to competition.

The CPUC has established performance measures and performance assessment methods in parallel proceedings in this docket. Our decision today establishes a complete performance assessment plan. We have created a set of procedures for allocating payments by the ILEC when OSS performance to the CLECs is deficient. In effect, we have set forth a self-executing decision model that applies barrier-identifying criteria to the performance measurement results and charges the ILECs monetary amounts for deficient performance. A self-executing plan is one that requires no further review and no new proceedings. Explicit, objective, data-based standards were established in D.01-01-037 that automatically identify inferior performance to CLEC customers that present potential "competitive barriers." Statistical tests identify potential barriers when ILEC performance to its own customers can be compared to ILEC performance to CLEC customers. Explicit performance levels, called benchmarks, identify potential barriers when there is no comparable ILEC performance.

This decision now completes the final step of the incentives plan, establishing the incentives that will be tied to any deficient performance identified by the model. The overall goal of the plan will be to ensure compliance with the FCC's directive that OSS performance shall provide competitors a true opportunity to compete.

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[3] *Bell Atlantic New York Order* ("FCC BANY Order"), 15 FCC Rcd at 3971, ¶ 429.

II. Background

On October 9, 1997, the Commission instituted this formal rulemaking proceeding and investigation to achieve several goals regarding Pacific Bell Telephone Company's (Pacific) and Verizon California Inc.'s (Verizon)[4] OSS infrastructure. One objective of this docket (the OSS OII/OIR) is to assess the best and fastest method of ensuring compliance if the respective OSS of the ILECs do not show improvement or meet pre-determined standards of performance. Another related objective is to provide appropriate compliance incentives under Section 271 of TA96, which applies solely to Pacific,[5] for the prompt achievement of OSS improvements.

To further these specific objectives, the ILECs and a number of interested CLECs have collaborated in the OSS OII/OIR proceeding and the 271 review process.[6] The work and accomplishments in these proceedings that relate to performance incentives plan development have been summarized in D.01-05-087 (performance measurements) and D.01-01-037 (performance assessment or evaluation).

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[4] Verizon was previously named GTE California Incorporated. Hereafter, Pacific and Verizon will be referred to collectively, as the ILECs.

[5] As a Bell Operating Company (BOC), Section 271 specifically applies to Pacific.

[6] From July through mid-August 1998, Pacific, AT&T Communications of California Inc. (AT&T), MCI WorldCom (MCI W), Sprint Communications, Electric Lightwave, Inc., ICG Telecom Group, Inc., Covad Communications (Covad), MediaOne Telecommunications of California, Inc., Cox California Telecom, LLC, Northpoint Communications, California Cable Television Association, and staff entered into a collaborative process and jointly worked on developing solutions to the flaws in Pacific's 1998 draft 271 application. Verizon observed one collaborative meeting on penalties, but otherwise did not participate. (Verizon Response to Motion to Accept Joint Comments regarding Report on Performance Incentives, footnote 2 at 2 (October 20, 1998)).

Following the Commission's adoption of the performance assessment model on January 18, 2001, Administrative Law Judge (ALJ) Reed convened a three-day facilitated workgroup on February 7, 8, and 9.[7] The purpose of the workshop was to begin development of a payment structure that would determine the recipients and the amounts of payments (performance incentives) by the ILECs for deficient OSS performance. Specifically, the workshops were convened to seek agreement on the scope, issues, principles or goals, elements, and concepts for the payment structure. The ALJ's ruling also presented an initial list of issues for this phase of the proceeding. In a ruling on March 2, 2001, the ALJ summarized the results of the three days. Attached to the ruling were thirteen documents identified as 2001 CPUC Workpapers # 16 through # 28. Workpapers # 16 through # 18 listed the incentive plan issues, goals, and elements discussed by the workgroup. Parties collectively edited these documents to achieve a common understanding of the concepts presented.[8] However, as the ALJ stated in her ruling, these documents did not necessarily represent any agreement between parties or any parties' position, but provided an informal guide for the parties to assess the completeness of any subsequent performance incentives plans.

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[7] *Administrative Law Judge's Ruling Scheduling Facilitated Work groups in the Performance Incentives Phase*, issued January 26, 2001.

[8] Pacific Bell submitted Workpapers #19, #20, #22, and #23, the CPUC Office of Ratepayer Advocates (ORA) submitted Workpaper #24, and the CLECs submitted Workpapers #25 and #26 to illustrate concepts these respective parties believed to be important for any plan. Pacific, the CLECs, and Verizon each submitted plan drafts identified as Workpapers #21, #27, and #28, respectively. While the ALJ's ruling convening the workgroup did not solicit plans from the parties, these parties elected to submit plans for discussion purposes during the workgroup sessions.

At the end of the workgroup sessions, the parties discussed different schedules for plan submission and a comment period. No agreement was reached. Pacific insisted on an eight-week schedule. The CLECs insisted on a minimum of twelve weeks. On March 2, 2001, Pacific filed a motion asking the Commission to expedite the plan development process by approving an updated version of the plan it submitted during the workgroup sessions. On March 9, 2001, Pacific filed a correction to its proposed plan. On March 12, 2001, the CLECs submitted a motion requesting that the Commission "establish an appropriate schedule for the consideration of an incentives program," or in the alternative, deny Pacific's motion. On March 20, 2001, the assigned Commissioner issued a ruling (ACR) setting a schedule for submitting and commenting on plan proposals from the parties. The ACR allowed time for all active parties to file updated plans and specified a schedule and guidelines for Pacific and Verizon "running" the plans on historical OSS performance data[9] as well as data simulating different performance levels.[10] The purpose of these data runs was to determine the outcomes of the various plans given historical and potential future performance. Minor adjustments to the ACR's schedule had to be made to allow parties to make corrections to their plans and then to provide comment opportunities. The data runs and comments were completed by June 8,

[9] Pacific calculated these figures. Due to parties' insistence that performance data is proprietary, all parties have not had access to all the data. Only Pacific and Verizon have had access to all the data necessary to complete the historical data runs.

[10] Anticipating that actual performance would change over time, the ACR requested simulated data runs in order to assess how the different plans would address improving or deteriorating performance. Since the simulations depended on actual "sample sizes" and parties also consider this information proprietary, Pacific and Verizon were also the only parties in the position to complete the simulation runs.

2001. Appendix A lists the filings that contain each party's latest plan, the data runs for each plan, and the subsequent filings that contain parties' comments on these plans.

III. The Proposed Plans

Pacific, Verizon, ORA, and the CLEC group each filed a different plan. The monetary outcomes varied greatly. Figure 1 shows the different monetary amounts that each plan would require Pacific to pay per month under the performance conditions Pacific and CLECs experienced in the last quarter of 2000.[11] Figure 2 shows the amounts that would be paid per year under different assumptions about future performance.[12]

[11] These results were calculated by Pacific Bell and Verizon. Payments would go to the individual CLECs and to either the ratepayers or the State General Fund as discussed, *infra*.

[12] Figure 2 projections were calculated without the log transformations that will be used in the actual plan. Logistical problems made retroactive data transformation prohibitively difficult for the earlier months in 2000; thus, only the last three months' data were transformed. Figure 1 shows the last three months with transformed data. Appendix B presents data that allows comparison of the last three months with and without transformations. Appendix B also provides charts of the payment amount data with aggregate failure rate data.

Figure 1
Projected Incentive Payments for Pacific
by Month for Last Quarter of 2000
With log tranformations

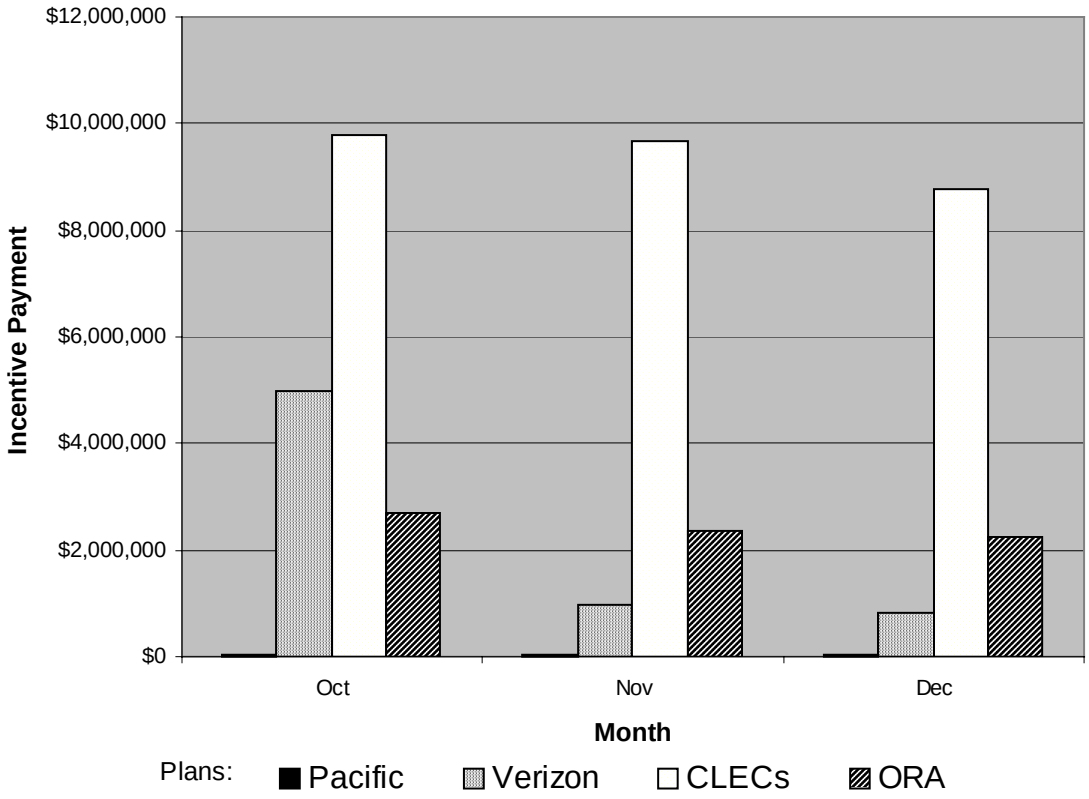
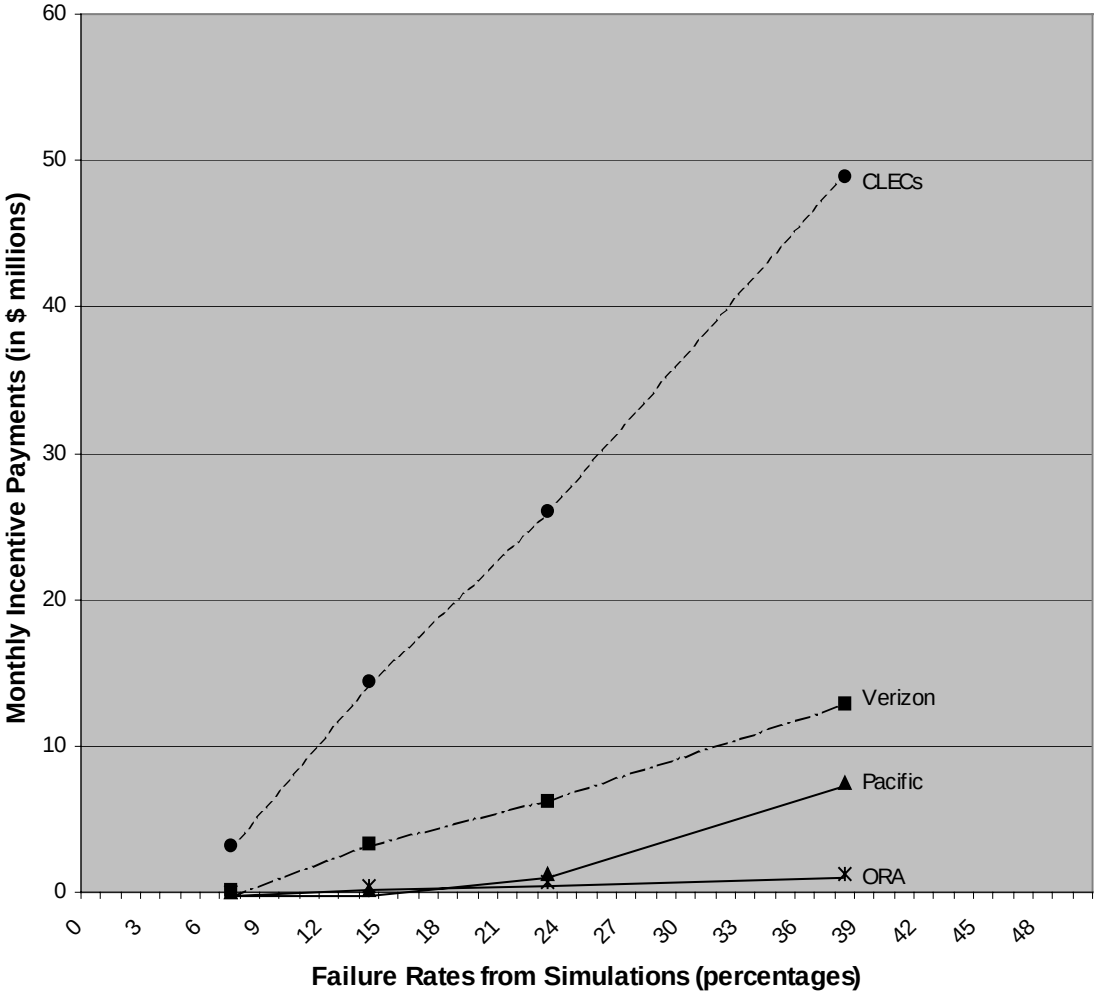


Figure 2
Plan Payments Projected for Pacific
for Simulated Performance Otucomes



We summarize each proposed plan briefly by discussing the primary components of the plans and the major differences between them. The complete details of each proposed plan were filed in this proceeding as noted below in the discussion of each plan.

A. Pacific's Proposed Plan

Pacific's proposed plan is documented in its March 23, 2001 filing in this proceeding.[13] Pacific's performance incentives plan has a monthly payment cap equal to three percent of its annual net return from local exchange service. Thus, on a yearly basis, the maximum available payment amount would equal thirty-six percent of Pacific's annual net return from local exchange service. These amounts are approximately $46 million monthly and $550 million yearly.[14] However, the full amounts would not be paid absent a formal Commission review. A maximum of $10 million total per month and $3 million per CLEC per month could be paid without review in a formal proceeding. Pacific Plan at 3, (March 23, 2001).

Pacific's plan pays Tier I assessments to the CLECs, and Tier II assessments to either the CLECs or a public fund. Tier I assessments are based on each CLEC performance result regardless of the volume of transactions. For example, if one CLEC's results are identified for payment on a sub-measure such as phone service provisioning, and it had 10 transactions (in this case provisioning orders), and another CLEC's results for the same sub-measure are identified for payment based on 300 transactions, the payments would be equal. Pacific's plan would not adjust payments based on the severity of poor performance. Tier II assessments are made by combining all CLEC results for each sub-measure to create an industry-wide assessment of sub-measure

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[13] *Pacific Bell Telephone Company's (U 1001 C) Submission of Performance Remedies Plan*, ("Pacific Plan"), filed March 23, 2001.

[14] Pacific's net return for local exchange service in the year 2000 was $1,527,942,000 Thirty-six percent of this amount is $550,059,120. Three percent of this net return amount is $45,838,260. See Appendix C (ARMIS 43-01 Cost and Revenue Table).

performance. Only sub-measures with an all-CLEC total of 30 transactions or more are assessed for Tier II payments. *Id.* at 11.

Pacific's plan "forgives" statistically identified failures that under optimal conditions could be attributed to random variation.[15] With the 0.10 critical alpha required by D.01-01-037, under these optimal conditions we should expect an *average* of 10 percent of the statistical test results to be identified as performance failures even when parity exists.[16] Pacific's plan assumes that the percent of failures will vary from the ten percent average each month, and bases its number of "forgiven" failures on a statistical estimate, "F," representing the most failures that can be expected ninety percent of the time.[17] *Id.* Thus for single-month performance results, Pacific's plan requires no payments when "F" or fewer tests fail. Currently, fewer than "F" tests are failing each month.[18]

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[15] Pacific states that these optimal conditions would be: (1) all sub-measures operating at exact parity, (2) all the assumptions of the statistical tests are satisfied, and (3) all the sample sizes are large. *Pacific Bell Telephone Company's (U 1001 C) Reply Comments on Commission's Initial Report on OSS Performance Results Replication and Assessment* ("Pacific Repl. Comm. OSS Results"), July 6, 2001 at 5.

[16] When performance is equal except for random variation.

[17] At parity, one month might result in 11 percent failures, then next 9 percent failures, and so forth. Pacific's "F" table value represents the number of failures that could be expected under parity conditions, except for the highest ten percent of the time. For example, if out of one hundred monthly assessments under parity conditions we would expect statistically to fail greater than 15 percent of the measures less than ten percent of the time, then "F" would be set to 15 percent.

[18] For the months October through December, 2000, Pacific performance averaged a statistical test failure rate of 9.6 percent, as illustrated in the Telecommunications Division's *Initial Report on OSS Performance Results Replication and Assessment* (Init. Rept. on OSS Perf.), June 15, 2001 at 18. More recent performance data obtained by staff from Pacific for May, 2001 shows a statistical test failure rate of 8.8 percent.

When more than "F" tests fail, Pacific's plan will only require payments for the number of failures that exceed "F." For example, if "F" represented twelve percent of the statistical tests, and fourteen percent of the tests failed, Pacific would only be assessed payments for two percent of the test results.

The payment amounts in Pacific's plan are also based on the pervasiveness of poor performance.[19] Specifically, the payment amounts increase as the percentage of statistically identified "failures" that exceed the number of "forgiven failures" increases. For example, if out of 100 results for a particular CLEC in one month there were twenty-two total identified failures with fourteen "forgiven" failures and eight "unforgiven" failures, the net failure percentage would be 9.3 percent.[20] In this case, Pacific's plan would assess a $100 Tier I payment for each of the "unforgiven" eight failures. *Id.* at 12. In this same example, if there were twenty-three total identified failures, there would be nine "unforgiven" failures with a net failure percentage of 10.5 percent.[21] With this outcome a $200 Tier I payment for each of the "unforgiven" nine failures would be assessed. *Id.* Payments range between $100 and $2000 per failure, depending on the degree of pervasiveness. The Pacific plan also assesses payments for

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[19] "Pervasiveness" refers to the extent of poor performance to a CLEC's customers. Pervasiveness is generally defined as the percentage of the total number of results that fail.

[20] In this example, 22 failures exceed the 14 allowed failures by 8 failures, which represents 9.3 percent of the total results excluding the forgiven failures:

$$(22 - 14)/(100 - 14) = .093, \text{ or } 9.3 \text{ percent.}$$

[21] In the second example, 23 failures exceed the 14 allowed failures by 9 failures, which represents 10.5 percent of the total results excluding the forgiven failures:

$$(23 - 14)/(100 - 14) = 0.105, \text{ or } 10.5 \text{ percent.}$$

repeated failures. Payments for three consecutive monthly ("chronic") failures range between $250 to $6000 and payments for six consecutive monthly ("extended chronic") failures range between $400 and $7000, depending on the degree of pervasiveness. *Id.*

Pacific does not explain how these dollar amounts were derived. However, Pacific presents an estimate of the economic impact of non-parity performance and asserts that the payment amounts generated by the plan exceed the economic impact of non-parity. For example, while Pacific's plan would assess a $497,900 total payment for year 2000 performance, which passed "just under 90%" of the sub-measures, Pacific estimates that the "upper bound" of economic harm to the CLECs for much worse performance would only be $219,080.[22]

Pacific proposes several conditions for applying a "conditional" 0.20 critical alpha level.[23] The conditional alpha level would be used only for the

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[22] Seventy percent pass rate. See Pacific Open. Comm., May 18, 2001 at 11–12.

[23] In the *Interim Decision* we directed parties to propose conditions for using a 0.20 critical alpha level to increase test power. *Interim Decision*, January 18, 2001, at 147, Ordering Paragraph (OP) 14. Our use of the term "alpha level" refers to the probability that random variation would produce results identified as "failing" even though OSS processes were operating fairly. ("Failing" results refers to poorer OSS performance for CLEC customers as compared to ILEC customers.) For example, because of "the luck of the draw" (random variation), CLEC customers might receive longer phone service installation times even though there was no discrimination in any aspect of the ILECs' installation assignments, services, etc. The alpha level is a measure of a decision error, or Type I error. "Critical alpha level" refers to the maximum error that will be accepted in a decision. A statistical test calculates alpha probabilities for a performance result. Any result with an alpha probability that exceeds the critical alpha level (e.g., in this case, 0.22 would exceed the critical alpha level of 0.20) would not be deemed a performance "failure" even though actual performance to CLEC customers was worse than service to ILEC customers. On the other hand, any result with an alpha probability

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monthly statistical tests that are used to identify Tier II assessments. Tier II assessments are limited to industry aggregate sample sizes of thirty cases or more that fail three consecutive months and exceed the permissible failure rate allowed by the mitigation provisions. Tier II payments range from $500 to $8000 per "unforgiven" failure depending on failure pervasiveness. *Id.* at 10-12.

B. CLEC Proposed Plan

The CLEC's proposed plan is documented in its May 11, 2001 filing in this proceeding.[24] The CLEC's performance incentives plan has the same monthly payment cap as Pacific's. As noted in the above description of Pacific's plan, these amounts are approximately $46 million monthly and $550 million yearly.[25] As with Pacific, the full payment amounts are not available without a formal review. In contrast to the Pacific plan, the CLEC plan would place a limit, or "procedural cap," only on Tier I payments that were neither severe nor chronic (repeated). The procedural cap would be $10 million total per month with no limit for individual CLECs. CLEC Plan at 20–21, (May 11, 2001).

In the CLEC's plan the ILECs would pay Tier I assessments to the CLECs, and Tier II assessments to a public fund. Similar to Pacific's plan, Tier I assessments are not adjusted by transaction volumes, and Tier II assessments are

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less that the critical alpha level (e.g., in this case, 0.18) would be deemed a performance "failure." In other words, in identifying performance as failing, we would only accept a twenty percent or less chance that random variation, and not actual discrimination, caused the poorer performance result. See also, *Interim Decision*, January 18, 2001, at 59-69 and 70.

[24] *Revisions to Participating Competitive Local Exchange Carriers' Performance Incentives Plan*, ("CLEC Plan"), filed May 11, 2001.

[25] The CLECs' calculations were based on 1999 data. CLEC Plan, May 11, 2001 at 12. The calculations here are based on 2000 data as listed in Appendix C.

made by combining all CLEC results for each sub-measure to create an industry-wide assessment of sub-measure performance. However, in contrast to Pacific's Tier II proposals, payments can be assessed without repeated failures, and the smaller transaction volume sub-measures are not excluded. Also in contrast to Pacific's plan, the CLEC plan would adjust payments based on the severity of the performance "failure," although the CLEC plan does not use a direct measure of severity. The plan uses a method based on statistical failure probability estimates. Essentially, the CLEC plan interprets lower p-value statistical failures as more severe failures, based on the premise that as failure severity increases, the statistical test will produce lower p-values reflecting the decreased likelihood of severe occurrences under parity conditions. *Id.*, at 7–8.

The CLEC's plan also "forgives" some statistically identified failures. While the stated "forgiveness" percentage is fifteen percent, it does not apply to aggregated small samples or to severe failures. As a consequence, the actual "forgiveness" percentage is not evident and must be calculated from the data. For example, if fifteen percent of the sub-measures were to fail and half the failures were severe, then the forgiveness rate would be 7.5 percent. Consequently, we cannot determine how this "forgiveness" mechanism compares to Pacific's ten-percent mechanism. However, as we discuss later in this decision, the relative impact of the different forgiveness mechanisms can be compared by examining the overall plan results as presented in Appendix B.

The CLECs propose that a 0.20 critical alpha be applied to small sample sizes. The application is limited by the condition that sample sizes do not reach 30 cases. The CLECs' intent was to increase test power where it is most needed, small samples. Apparently recognizing the congruent problem of too much power, the CLECs have offered to decrease test power for the industry-aggregate performance results (Tier II) by using a smaller critical alpha, 0.05. *Id.* at 5-7 and

16-17. The CLECs justify their Tier II smaller alpha by pointing out that industry-aggregates samples are likely to be larger than individual CLEC samples, and thus already have greater test power. *Id.* at 5.

C. Verizon's Proposed Plan

Verizon's proposed plan is documented in its May 4, 2001 filing in this proceeding.[26] Verizon's performance incentives plan sets monthly payment caps for the first three years based on the Verizon (GTE-Bell Atlantic) merger conditions.[27] Verizon's proposed annual maximum possible cap is $19.8 million the first year, $29.7 million the second year, and $39.6 million the third year. The monthly caps are one-twelfth of these amounts, 1.65 million, 2.475 million, and 3.3 million, for the respective years. In contrast to the Pacific and CLEC plans, the full payment amounts are available without a formal review.

In Verizon's plan the ILECs would pay Tier I and II assessments to the CLECs. In contrast to Pacific's plan, Tier I assessments are based on transaction volumes. Generally, payments are based on the number of CLEC customers who experience service worse than the average level for ILEC customers. Verizon's Tier II assessments are the same as Pacific's, except that Verizon specifies that payments go to the CLECs. Verizon Plan at 15–16.

The Verizon plan would adjust payments based on the severity of the performance "failure." Severity is determined by a similar metric as the one used to adjust payments by transaction volumes. The percentage of CLEC customers

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[26] *Revised Interim Verizon Performance Plan for the State of California,* ("Verizon Plan"), filed May 4, 2001.

[27] *Re GTE Corporation and Bell Atlantic Corporation, Application for Consent to Transfer Control, etc,* FCC 00-221, CC Doc. No. 98-184, Memorandum Opinion and Order, June 16, 2000, Attachment A-6, p. A-6-1; as cited in Verizon Plan at 9, (May 4, 2001).

who experience service worse than the average level for ILEC customers determines severity. The severity calculation increases as the percentage of disadvantaged CLEC customers increases. *Id.* at 11–14.

Verizon's plan also "forgives" some statistically identified failures for Tier I results. Similar to Pacific's "F" value described earlier, Verizon has created a "K" table that specifies the number of permitted failures depending on the number of submeasure results for a CLEC in a month. The "K" table allows between about thirteen and twenty percent of the submeasure results to be "forgiven." For example, if a CLEC had fifteen submeasure results in one month, then three (twenty percent) could be forgiven if they failed. If a CLEC had 236 submeasure results in one month, then thirty (12.7 percent) could be forgiven if they failed. *Id.*, App. D. at 32.

Verizon's plan also differs from the other plans in that it pays on a smaller set of performance measures. While other plans exclude some measures consistent with the *Interim Opinion*, Verizon excludes several additional measures because it views them as redundant or correlated to other paying measures. *Id.* at 4–7. Verizon's conditional 0.20 critical alpha proposal is the same as Pacific's except that Verizon specifies that Tier II payments would go to the CLECs, with no option for payment to a public fund as Pacific provides.

D. ORA's Proposed Plan

ORA's proposed plan is documented in its May 4, 2001 filing in this proceeding.[28] Unlike the other parties, ORA's has not included payment caps in its performance incentives plan. ORA is concerned that payment caps can result in disincentives for good service:

[28] *Updated Interim Incentive Model*, ("ORA Plan"), filed May 4, 2001.

> "Payment caps not only cap payments, they also place a cap on service improvements. Service is effectively capped because both absolute and procedural caps provide the ILEC with an incentive to allow service to deteriorate once the cap is reached." ORA Plan at 11, (May 4, 2001).

In contrast to other plans, ORA's preferred plan would have the ILECs pay assessments primarily to individual ratepayers. ORA bases its payment distribution on the principle that payments should go to "the same entities (primarily business and residential ratepayers) who are paying for the infrastructure changes and upgrades that the ILECs assert were required to effectuate local exchange competition." *Id.* at 3. ORA's preferred plan would have the ILECs pay ninety-three percent of the assessments to individual ratepayers, one percent to the CLECs, and six percent to interexchange carriers (IECs). *Id.* at 4. ORA's plan does not have different tiers, as do the other plans. ORA's plan is entirely based on individual CLEC sub-measure results each month, similar to the Tier I structure of the other plans. *Id.* at 11.

Similar to Pacific's and the CLECs' plans, ORA's assessments are not adjusted by transaction volumes. Similar to the CLECs' plan, the ORA plan would adjust payments using statistical test outcomes as indirect performance "failure" severity measures. *Id.* at 11-12. In contrast to the other plans, ORA's plan does not forgive any statistically identified failures. Additionally, ORA's plan does not specify a *conditional* 0.20 critical alpha level. While ORA's plan lists a 0.20 alpha level, it gives no indication of when it is to be used. *Id.* at 7, 16-18, and 23-24.

IV. Discussion

A. Payment Caps

Both Pacific and the CLECs recommend an annual payment cap of thirty-six percent of the annual net return from local exchange service. Pacific Plan at 16; CLEC Plan at 12. This is the same percentage amount as implemented in four of the seven states that have obtained Section 271 approval, and is very close to the amounts in two other states.[29] Verizon proposes smaller amounts.[30] ORA proposes that there should be no cap. We are not persuaded by either ORA's or Verizon's presentations, and find no reason to depart from the precedent set in the states with Section 271 approval. Given the wide variation of payment amounts that the various plan proposals have generated in this proceeding, we believe it unwise to have no cap at all. Adopting a reduced amount could weaken the incentive effect of an incentives plan. Having no cap

[29] Payment caps in New York, Texas, Kansas, and Oklahoma are 36% of net return. *Bell Atlantic New York Order* ("FCC BANY Order"), 15 FCC Rcd at 3971, ¶ 436; *SWBT Texas Order* ("FCC Texas Order"), 15 FCC Rcd at 18354, ¶ 424; SBC Kansas-Oklahoma Order ("FCC Kansas-Oklahoma Order"), 16 FCC Rcd at 6237, ¶ 274. The payment cap in Massachusetts is 39% of net return. *Verizon Massachusetts Order* ("FCC Massachusetts Order"), 16 FCC Rcd at 9118, ¶ 241 and fn. 769. The payment cap in Connecticut is proportional to the New York amount, based on the relative number of lines. *Verizon Connecticut Order* ("FCC Connecticut Order"), __ FCC Rcd at __, ¶ 76; *Application By Verizon New York For Authorization To Provide In-Region, Interlata Services In Connecticut*, at 78 (April 23, 2001). Payment caps have yet to be established in Pennsylvania. *Verizon Pennsylvania Order* ("FCC Pennsylvania Order"), __ FCC Rcd at __, ¶ 130, fn. 445.

[30] Verizon proposes approximately $20 million, $30 million, and $40 million annual payment caps in the first, second, and third years of incentive plan operation. In contrast, given that Verizon's net return from local exchange service is $461,450,000, a cap consistent with the Pacific and CLEC proposals in California, and consistent with Section 271 approvals in other states, would be thirty-six percent of this amount, or about $166 million. See Appendix C (ARMIS 43-01 Cost and Revenue Table).

could subject an ILEC to unintended and virtually unlimited financial liability. Regarding ORA's concern that a cap could become a disincentive for performance improvements, the FCC has pointed out that no incentive plan needs to be sufficient, standing alone, to counterbalance an ILEC's incentive to discriminate.[31] For the above reasons, we adopt the absolute caps defined as thirty-six percent of net return from local exchange service. These amounts will be calculated from the most recent ARMIS data and updated each year as soon as new data is available.

Pacific and the CLECs also propose "procedural caps" that limit the payment amounts without formal review. It is notable, however, that Verizon's monthly payment cap amounts are about the same as Pacific's procedural cap amounts when pro-rated by the two companies' different annual net return amounts.[32] While we appreciate that our incentive plan should be self-executing without time consuming delays for reviews, we realize that unforeseen circumstances can arise that might place an ILEC in a financially liable situation that we might not intend. We will adopt procedural caps to help balance the need for self-executing payments with the need to protect against unintended financial liability. We agree with Pacific that these caps should have no exclusions.[33] We will adopt procedural payment caps proportionate to those in

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[31] The FCC lists other remedies that can be applied. See FCC BANY Order, ¶ 435.

[32] With Pacific's annual net return at $1.5 billion and a proposed monthly cap of $10 million, if Verizon had set a comparable procedural cap relative to its net return of $461 million, it would be $3 million per month, would exceed the absolute cap for the first two years, and would be about the same as the absolute cap for the third year.

[33] *Pacific Bell Telephone Company's (U 1001 C) Opening Comments on Performance Remedies Plan (May 18, 2001)* at 22-23 ("Pacific Open. Comm.").

New York and Texas because the California procedural payment caps should reflect the larger net return amounts at stake. We will adopt total monthly procedural payments caps of $15 million and $4.5 million for Pacific and Verizon, respectively. We will not adopt individual payment limits to individual CLECs, as we do not have sufficient record evidence and justification for such limits.

B. Mitigation

Since statistical tests do not eliminate all the error associated with performance assessment, several parties have pressed for provisions that reduce, or mitigate, the remaining error. These mitigation provisions essentially would allow a certain number of statistically-identified performance failures to be "forgiven," under the rationale that random variation, not inferior performance, would cause some failure identifications.

As discussed at length in D.01-01-037, our January 18, 2001 decision (*Interim Opinion*) establishing the statistical model for identifying deficient ILEC OSS performance, statistical tests can only provide estimates of the likelihood that a decision made about any given performance result might be in error. *Interim Opinion* at 59-69. Our *Interim Opinion* discussed the two fundamental types of error, Type I and Type II error. Type I error occurs when OSS processes for ILEC and CLEC customers operate at parity, but random variation causes us to identify the results as inferior for CLEC customers (non-parity). We set a cut-off point limiting the likelihood of a Type I error at 10 percent (0.10 critical alpha). Thus under ideal conditions, we will label parity performance as non-parity performance ten percent of the time. We did not set the critical alpha to be smaller because in doing so we increase Type II error. Type II error occurs when an OSS process for CLEC customers is inferior to that provided ILEC customers, yet our statistical decision identifies the results as parity performance.

Our analyses determined that while Type I error was fixed at ten percent, Type II error far exceeded that amount. *Interim Opinion*, Appendix F. We instructed parties to propose ways to strike a better balance between Type I and Type II errors by proposing conditions for using a 0.20 critical alpha, which would decrease Type II errors.

However, the ILECs have only proposed provisions to reduce Type I error.[34] Pacific and Verizon have proposed that failure identifications equal to the number of expected Type I errors be forgiven. For the monthly identifications, which have a ten percent critical alpha, Pacific and Verizon propose incentive payments only when the number of failure identifications exceeds ten percent.[35] That is, at least ten percent would be forgiven. Pacific's Plan at 9–11; Verizon's Plan at 31-32. For the repeated failure identifications, Pacific proposes that a percentage equal to or greater than the resultant critical alpha be forgiven for three-month consecutive failure identifications, but not for six-month identifications. The resultant three-month failure identification critical alpha is 0.001, or 0.1 percent.[36] Pacific does not propose mitigation for six-month

[34] While both ILECs propose a conditional 0.20 critical alpha level, their proposals only extend to consecutive failures, which increase Type II error relative to Type I error. We discuss this further in a subsequent section below.

[35] The actual percentage is greater than ten percent as we discuss later in this decision, but for the purposes of illustration here we use the ten percent figure.

[36] For example, out of 1000 statistical tests, with a critical alpha of 0.10, in the first month we would expect 100 failures to be identified even though true parity exists. Because these errors are random under parity, we would not expect all the same to be identified the second month. We would again expect 10 percent to be identified, resulting in 10 remaining failure identifications. The third month we would again expect ten percent of the remaining identifications to be identified, resulting in one remaining

Footnote continued on next page

failures because the resultant Type I error is negligible. Pacific Open. Comm. at 17. For example, with a monthly 0.10 critical alpha, the six-month resultant critical alpha would be 0.000001, or one-in-a-million.[37] With approximately 4,000 tests per month, erroneous failure identifications would be extremely rare.

We must confront two issues in deciding whether to include a Type I mitigation component in the plan we establish today. First, any mitigation proposal must be viewed in the context of both Type I and Type II error. While Type I error mitigation may be rationally justified for reducing Type I errors under parity conditions, its justification is less clear under non-parity conditions. In short, we must examine how mitigation affects Type II error. Second, we must know that the statistical test assumptions behind the rationale for the mitigation plans are satisfied. For example, it was apparent during deliberations on the *Interim Opinion* that available statistical applications are not perfect. The question for us now is whether any un-met assumptions for those tests will distort the normal relationship between the critical alpha and the expected number of Type I errors.

1. Type II Error

As stated in the Interim Opinion, with Type I error fixed at ten percent, we found that estimates for Type II error were much higher.[38] Since

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identification. This resultant critical alpha can be calculated by multiplying the monthly critical alphas (0.10 x 0.10 x 0.10 = 0.10^3 = 0.001, or 0.1%).

[37] 10^6 = 0.000001, or 0.0001 percent.

[38] These estimates were based on selected alternative hypotheses. That is, two estimates were made: What would the Type II error be if (1) performance was 50% worse for the CLECs, or (2) performance was 100% worse for the CLECs.

Type II error only can occur when OSS processes are not operating at parity, it is critical to examine current OSS performance. If we could be confident that parity exists, then we could be confident that mitigation plan use would be advised at least in the short term. However, if we find evidence for non-parity, then we must ensure that using a mitigation provision will not cause undue forgiveness of performance needing remediation.

On June 15, 2001, the Telecommunications Division issued a report examining Pacific's OSS performance for October through December 2000.[39] Those months were the most recent months available when staff began its study. We now have the benefit of that report and the parties' comments. The report concluded that there were two sources of evidence for non-parity. First, the distribution of p-values provided evidence for both inferior and superior non-parity performance. Init. Rept. on OSS Perf. at 7-9. Second, the incidence of chronic performance failures provided additional evidence for inferior non-parity performance. *Id.* Because of this evidence indicating that Type II errors are likely, we are reluctant to mitigate Type I error further than we already have.[40]

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[39] *Initial Report on OSS Performance Results Replication and Assessment*, ("Init. Rept. on OSS Perf."), California Public Utilities Commission, Telecommunications Division, June 15, 2001.

[40] We note that we have already built in considerable protection against random variation. As we discussed in the *Interim Opinion*, even when OSS performance to CLEC customers is worse than performance to ILEC customers, a performance failure is not identified unless the result passes a statistical test. All the instances where CLEC customers receive worse OSS performance are essentially "forgiven" if the statistical test criteria are not met. For example, in December 2001, individual CLECs collectively received poorer service twenty-eight percent of the time. Since the 0.10 critical alpha criterion is only met by about eight percent of the results, our "forgiveness" rate is about twenty percent.

Verizon is critical of our attention to Type II errors, but neglects to recognize the core problem. Verizon Open. Comm. at 23–28 (May 18, 2001). The problem with Type II errors is that poor performance to a CLEC is essentially ignored. To the contrary, Verizon asserts that a Type II error has "no adverse outcome to the CLEC or its customers." *Id.* at 26. To explain its views, Verizon presents a baseball strike zone as an analogy to ILEC OSS performance to ILEC and CLEC customers.[41] In this analogy, a pitching machine represents ILEC OSS, and batters represent ILEC and CLEC customers. The better pitches, or "strikes," represent the better OSS performance, whereas the pitches outside the "strike zone" represent the poorer OSS performance. Since this analogy is supposed to illustrate parity performance results, the only relevant issue here is the comparison between the accuracy of "pitches" to CLEC customers versus the accuracy of "pitches" to ILEC customers. Performance is considered failing when CLEC customers' "pitches" are further from the center of the "plate" than are ILEC customers' "pitches." The illustration analogy for performance result sample sizes is the number of "pitches." Verizon does not adequately describe any OSS performance analogy for the differences in the size of the strike zone (Verizon Open. Comm. at 28), and we find no relevance in this proceeding for this element of their analogy.

We find that Verizon's analogy fails to support its conclusions regarding the impact of Type II errors. For example, on page 27 of its comments, Verizon asserts that it presents an illustration of a Type II error. However, in its "strike zone" analogy, Verizon asserts that when a CLEC receives two "perfect strikes" and the statistical test passes, a classic Type II error results. This analogy

[41] Verizon's illustrations are reproduced here in Appendix D.

is inadequate. When actual sub-measure performance to CLEC customers is better than performance to ILEC customers as in this illustration, one-tailed statistical tests cannot fail. A one-tailed test can only find *worse* performance to be statistically significant. Thus at the level of performance to an *individual* CLEC, the basic premise of a Type II error, that *worse* performance not be identified as a failure, is not illustrated in Verizon's page 27 example.

The negative effect of a "classic" Type II error on a CLEC is best illustrated in Verizon's comments at pages 26 and 25. In the page 26 illustration, the CLEC receives worse service, but the test criteria are not met. Verizon agrees this is a Type II error. Verizon Open. Comm. at 25-26. Additionally, even though Verizon presents the illustration on page 25 to be an instance where a failure is statistically identified, because of the small sample the illustration is more likely to represent an instance where there is insufficient test power to identify this result as a failure. Thus, for this CLEC, it also would be a Type II error. The CLEC's customers would be disadvantaged and there would be no incentive payment to motivate the ILEC to provide better service. In summary, for the above reasons we are not persuaded by Verizon's argument that "the consequences of a Type II error result in no adverse outcome to the CLEC or its customers." Verizon Open. Comm. at 26.

We are concerned that the mitigation proposals reduce the number of Type I errors at the cost of producing more Type II errors. In every instance where an identified failure is "forgiven," performance to a CLEC's customers is worse than performance to the ILEC's customers. While at a theoretical level, some of these identifications may be Type I errors, we cannot ignore the fact that the inferior performance disadvantages the CLEC. Given this disadvantage, especially under overall non-parity conditions, an increment in the Type II error rate is likely.

2. Statistical Test Assumptions

Evidence from the distribution of p-values was the most controversial issue regarding OSS performance assessment. Most importantly, Pacific pointed out the fallacy of the assumption that under parity conditions the expected average Type I error incidence would equal the critical alpha level. Pacific stated that for this equality to occur, three conditions must be met:

> "If we were to assume that:
>
> 1) all sub-measures operate exactly at parity,
>
> 2) all the assumptions of the statistical tests are satisfied, and
>
> 3) all the sample sizes are large,
>
> then we should observe that 1% of sub-measures have p-values of .01, and so forth. But none of these assumptions is completely satisfied. It is very unlikely that all the sub-measures operate exactly at parity, nor is it likely that the statistical tests we want to use are completely appropriate to the problem, and it is certainly not true that all sample sizes are large. Therefore, it should not come as a surprise that the percentage of p-values less than .01 is not 1%." Pacific Reply Comm. OSS Results at 5–6 (July 6, 2001).

The evidence before us indicates that for the purposes of justifying current mitigation proposals, none of these assumptions are sufficiently satisfied. The tests we have selected, and the application of those tests, were based on the need for a practical application to existing conditions. For example, we cannot dictate sample sizes for any test as could be done in an academic application. Sample sizes are determined by many operational, business, and regulatory factors. Consequently, we must test using samples smaller than are optimal for the statistical tests. Another example is the use of statistical tests for average-

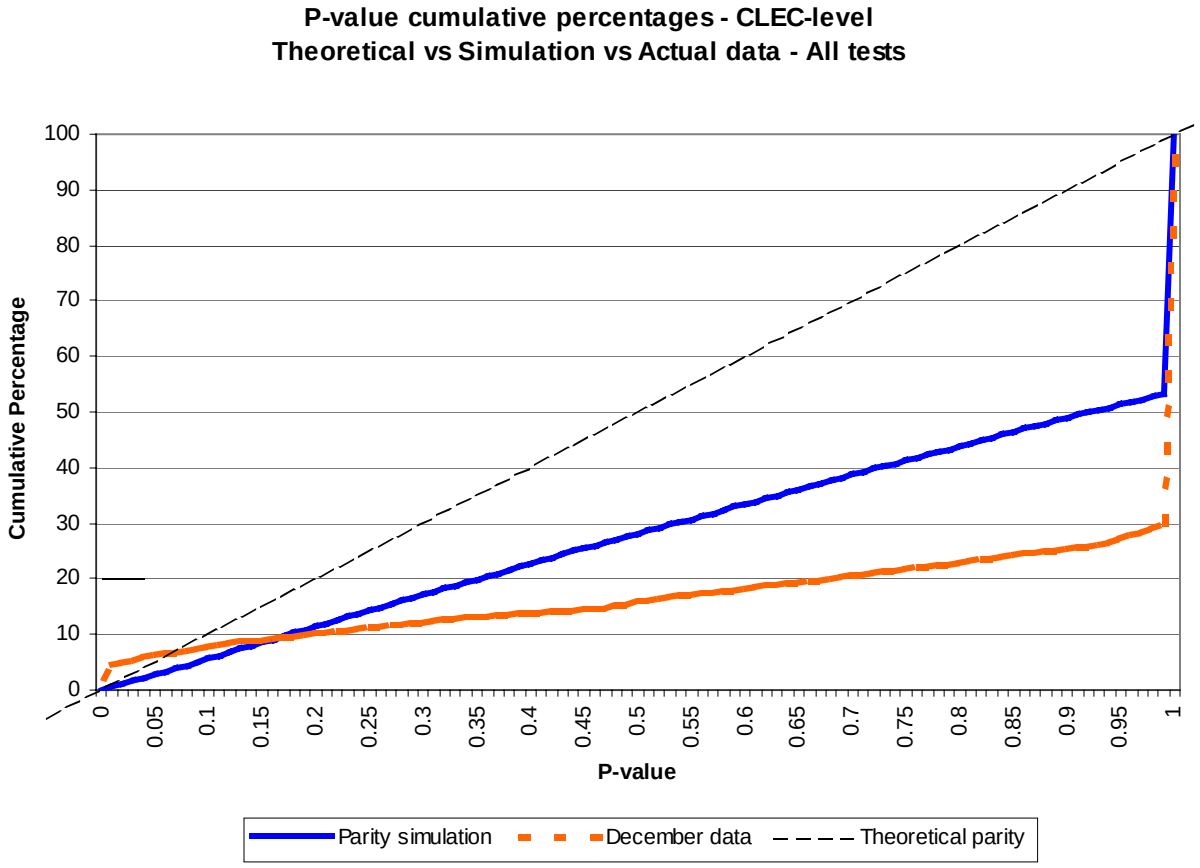
based performance measures. While the log transformation required by the *Interim Decision* may bring the performance data distributions closer to normality and thus improve the t-test application, normality was not completely achieved.

Pacific and ORA both questioned staff's conclusions regarding the high incidence of p-values close to "1.0." Pacific Reply Comm. OSS Results at 8; ORA Open. Comm OSS Results at 5-8 (June 29, 2001). In its report, staff concluded that the dramatic departure from the expected proportions indicated that Pacific was often providing CLEC customers service so superior that performance results for these services were not subject to statistical failure identification. If this were the case, then it would increase the number of high p-values and reduce the number of expected low p-values. In the spirit of ongoing technical development stated in the report,[42] the staff investigated this issue further. Upon request of staff, Pacific earlier had simulated parity OSS performance using the Interim Decision statistical model, Pacific's performance, and Pacific and CLEC sample sizes from December 2000. The premise of the investigation was that the simulation would forecast the possible outcomes if future performance were to improve or worsen. However, the simulations may also illustrate the effects of the departure from the optimal conditions needed to rely on the alpha/p-value distribution relationship, as illustrated below.
Figure 3 shows three relationships. First, it shows the theoretical straight-line relationship between selected alpha levels and p-value cumulative percentages. Pacific's and Verizon's mitigation plans are based on this theoretical relationship. Second, the line depicting actual OSS performance begins above the theoretical

[42] *See* Init. Rept. on OSS Perf. at 2.

line but continues mostly below that line. Third, the line depicting simulated parity performance begins and stays below the theoretical line.

Figure 3



Several conclusions can be drawn from this graph. First, the considerable discrepancy between the parity simulation distribution and the theoretical distribution shows the effects of the departure from optimal statistical conditions. This provides evidence that we cannot simply "forgive" a percentage of failures equal to, or greater than, the critical alpha level. For example, at a 0.10 critical alpha level, using the *Interim Opinion* tests and actual performance parameters, the graph shows that we should only expect about five percent failure identifications overall. Second, to the extent that the simulations are

accurate, the *similarity* between the simulation and actual performance distributions shows that much of the high incidence of "better service" results is actually an artifact of the statistical test applications. All of the departure from the theoretical cumulative distribution cannot be attributed to "better service" as suggested in staff's June 15, 2001 report. Init. Rept. OSS Perf. at 9. Additionally, the *differences* between the simulation and the actual performance distributions represents poorer *and* better than parity service at the left and right portions of the graph, respectively.

Although we have evidence that statistical test artifacts cause much of the departure from the theoretical optimal cumulative p-value distribution, we are not persuaded by some parties' comments that the provision of exceptionally good service does not affect mitigation appropriateness. Specifically, Pacific asserts that to not forgive 10 percent of the statistically identified failures because an ILEC otherwise provided "ultra-good service" would be "perverse." Pacific Reply Comm. OSS Results at 2–4. Pacific argues that "the notion that exemplary performance should decrease the allowance for random variation is unfounded, unfair, and counter to the principles of a fair incentive plan."[43]

We disagree with Pacific's assertions and arguments here for two fundamental reasons. First, the purpose of this incentive plan is not to reward or credit an ILEC for giving an OSS competitive advantage to the CLECs. The limited purpose is to ensure that an ILEC does not present OSS barriers to the CLECs. The role of an incentive plan is to ensure an ILEC removes all OSS

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[43] Ex Parte contact on July 25, 2001, by Ed Kolto, General Attorney, and Eric Batongbacal, Executive Director-Regulatory, Pacific Bell Telephone Company, with Lester Wong, Advisor to Commissioner Bilas.
http://www.cpuc.ca.gov/published/proceedings/I9710017.htm.

barriers, regardless of whether an ILEC chooses to otherwise provide exceptionally better service. To allow provision of exceptionally better service to offset instances of poor service would be contrary to our goals here.[44] Additionally, it would set up rewards for gaming behavior. For example, an ILEC could give exceptionally good service for all but the most profitable ten percent of the sub-measures, and provide real OSS barriers for the remaining ten percent. With a ten percent mitigation plan, there would be no payments even for such purposeful anti-competitive behavior. In fact, a ten percent mitigation plan could function as an incentive for gaming behavior.

We also do not accept Pacific's reasoning when it asserts that ten-percent forgiveness is warranted in two scenarios: (1) a "perfect parity" scenario with ten percent "ultra-superior service," eighty percent "parity service" and ten percent "missed" due to random variation, and (2) a scenario with ninety percent "ultra superior" service and ten percent identified as "missed." Pacific Reply Comm. OSS Results at 3. Pacific's illustration is reproduced in Figure 4.

[44] The FCC appears to share this position. *See* FCC BANY Order, ¶ 440, fn. 1350 and App. B. ¶ 18, fn. 51.

FIGURE 4

<table>
<tr><th></th><th colspan="3">Level of Service</th></tr>
<tr><td>Scenario 1</td><td>Ultra-Superior</td><td>Parity</td><td>Missed</td></tr>
<tr><td>Scenario 2</td><td colspan="2">Ultra-Superior</td><td>Missed</td></tr>
</table>

First, we find Pacific's arguments irrelevant because they assume optimal statistical test conditions that do not exist in the actual plan application as described earlier in our discussion. Second, Pacific's implication that the ten percent identified as "missed" should be forgiven in both scenarios neglects the premise of mitigation. By definition, the sole purpose of random variation mitigation provisions is to mitigate any payment liabilities from failures identified solely because of random variation. Even if we assume the necessary statistical conditions exist in these scenarios, and that the ten percent should be forgiven in Scenario 1, the logic does not extend to Scenario 2. Scenario 2 is based on the premise that ninety percent of the service is "so good that random variation has been eliminated as a potential cause for missing a sub-measure." *Id.* at 2, fn. 3. Thus, while 100 percent of the measures in Scenario 1 are subject to random variation,[45] only ten percent of the Scenario 2 measures are subject to random variation. Given the assumptions in these scenarios and adhering to the underlying principle that ten percent of the measures subject to random variation

[45] Under optimal statistical test conditions and "perfect parity service," statistical test results for all service are subject to random variation. Pacific's use of the term "ultra-superior service" seems misplaced for Scenario 1, as the term excludes random variation from the upper ten percent and contradicts the notion of "perfect parity service."

should be "forgiven," we should forgive ten percent in Scenario 1 and one percent (ten percent *of ten percent*) or less in Scenario 2.[46] In other words, zero percent of the OSS service in Scenario 1 is discriminatory, whereas at least nine percent is discriminatory in Scenario 2. We would expect the hypothetical ILEC to make incentive payments on nearly all the missed measures in Scenario 2. In conclusion, we find that the preponderance of evidence indicates that a mitigation provision that "forgives" a percentage of statistically identified failures equal to or greater than the critical alpha level is not appropriate under current circumstances.

An apparent alternative would be to compare the actual performance distribution to the simulation distribution. However, there are several problems with this alternative. First, different statistical tests will produce different distributions. We would need to consider additional research determining the expected distribution for each different statistical application and then compare the relevant actual performance to each distribution. That research is not sufficiently developed at this time. Second, the discrepancy between the theoretical cumulative distribution and the actual cumulative distribution changes with different critical alpha levels. For example, there are approximate discrepancies of 4.5, 4.2, 2.6, 1.0, and –0.8 percent at the 0.01, 0.05, 0.10, and 0.15, and 0.20 critical alphas, respectively. Since we based our selection of the 0.10 critical alpha level on other factors, it makes the mitigation plan

[46] If 100 percent of the results that are not ultra-superior service fail, outcomes of less than ten percent (one percent of total) Type I errors are likely. Ten percent Type I errors is likely under parity conditions for the portion of results that are not ultra-superior service. However, when 100 percent of these results fail, it is more likely that there are fewer Type I errors, if any.

outcomes somewhat arbitrary. The mitigation outcomes also become somewhat counterintuitive to the extent that as we select a larger critical alpha to detect more failures, we decrease the number of failures treated by the plan. For example, at an alpha level of 0.01 we would identify 4.5 percent of the results for incentive payments, whereas if we increased the alpha level to 0.20, we would not identify any failures for incentive payments. Third, the integrity of using the comparison is completely dependent on the accuracy of the simulations. We do not have sufficient evidence of accuracy to depend on these simulations for appropriate mitigation levels. For these reasons we decline to use the simulations as a standard for parity.[47]

The ILECs' most compelling argument for their mitigation proposals is that without them, when their OSS processes are operating at parity they will be inappropriately penalized. While we agree with the need for some additional protection when parity performance has been achieved, we note that parity has not yet been achieved. We assume that under all the scrutiny that Pacific has experienced since July of 1999, when the performance measures were implemented, that Pacific has been trying to get its OSS processes to operate at parity. Given that they have not been able to do so in over twenty-one months

[47] These simulations were created for different purposes. They were created to provide information on how the different plans would function under potential future parity and non-parity conditions. One particular problem Pacific had was in simulating parity outcomes for the average-based performance measures. As a practical matter, Pacific had to assume lognormal distributions, which would normalize with a lognormal transformation. However, we have previously documented evidence showing that while average-based distributions moved towards normality with the transformation, they did not end up truly normal. *Interim Decision*, App. J, Attach. 4. As a consequence, the simulation does not depict a distribution sufficiently accurate for selecting the relatively small percentage margins that are needed for the mitigation plans.

makes us doubt that parity will be achieved in the next few months. Since the implementation we order today will in effect be a six-month initial implementation period, it is not likely that Pacific will be placed in the unfortunate situation of parity operation without random variation mitigation during this time.

For all the above reasons, we decline to adopt a mitigation proposal at this time. However, we will direct parties to continue mitigation provision development for our consideration for future use. Parties should address all the issues raised above as they develop and present new proposals. If at any time in the future there is compelling evidence that complete parity has been achieved, or that a suitable mitigation metric has been developed, then we intend to include appropriate mitigation if it presents no problems should performance deteriorate, or "backslide."

C. Conditional 0.20 Critical Alpha

In the *Interim Opinion* we directed parties to propose conditions where a larger alpha, 0.20, would be used to increase the power of the statistical tests. We will not adopt any party's specific proposal. We will not adopt Pacific's proposal because it is only used for the larger sample sizes (aggregate samples, greater than 30), and is used in repeated failure situations where the net resulting critical alpha is 0.008, much *smaller* than the unconditional standard, 0.10. To increase test power as we intended, a larger alpha is best used for the smaller, rather than larger samples. Additionally, since a consecutive-failure identification requirement decreases Type I error at the expense of Type II error and, as used by Pacific, is contrary to the more balanced situation we seek, we decline to use the Pacific proposal. The Verizon proposal is virtually the same and we decline to use it for the same reasons. However, we do appreciate the fact that both

Pacific and Verizon have increased the critical alpha for the individual tests that make up the consecutive-failure identifications. Without the increase to the monthly 0.20 alpha level, the net critical alpha would have been one-eighth as large, 0.001 versus 0.008.

The CLEC proposal is consistent with the guidelines we established in the *Interim Opinion*. The CLECs would apply the 0.20 critical alpha only for small sample conditions, and as a consequence would increase test power where it is most often needed. However, we also wish to utilize other available information that will enhance the benefit of using a larger critical alpha by more closely targeting situations where it will be most helpful. Such information exists in the aggregate analyses. These analyses have larger sample sizes and thus are better at detecting non-parity (true failures) without increasing Type I error. Since increased test power and decreased Type II error are only helpful in true non-parity situations,[48] any information indicating non-parity will be helpful in targeting our conditional alpha. So if we use the larger critical alpha for CLEC-level results only where the corresponding industry aggregate fails, we are likely to better target the appropriate situation for increasing test power.

We conclude that since increased power is most appropriate for small samples, for tests for repeated failures, and when there is information indicating sub-measure non-parity, that we will adopt the following provision: A 0.20 alpha will be used under the following circumstances:[49]

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[48] See the discussion in the *Interim Opinion*, specifically Figure 4 at 66, and generally at 59–69 and 83–98 (January 18, 2001).

[49] The default critical alpha level is 0.10 as specified in D.01-01-037.

(1) When sample sizes are less than 30 for single-month individual CLEC tests where the aggregate sub-measure test indicates non-parity.

(2) For all tests for repeated failures.

We also find merit in the CLECs' proposal to decrease Type I error where it is most likely to occur, namely large samples. However, the CLECs' propose applying the smaller alpha level to all Tier II (aggregate level) statistical tests, regardless of actual sample size. Since there are still many small samples at the aggregate level, we find the proposal does not target the problem as closely as we would prefer. Given that a smaller critical alpha is most warranted for larger samples, and for samples where information suggests parity, we will adopt a five percent critical alpha under the following conditions:

(1) When sample sizes are 100 or greater for single-month individual CLEC tests where the aggregate sub-measure test indicates parity.

(2) When single-month sample sizes are 500 or greater.

D. Payment Amounts

Parties have presented economic justifications for the incentive payment amounts their respective plans would produce. Each justification makes several assumptions about economic harm to the CLECs. However, since variation in these assumptions and the potential affect of unrecognized variables could cause large changes in the economic estimates, we are reluctant to base the payment amounts on these estimates. For example, Pacific assumes that poor performance to CLEC customers would cause the CLEC to lose ten percent of those customers. Pacific's estimates are based on the net income that a CLEC would lose from each customer. We are concerned that higher percentages of customers could be lost, and in the span of time it would take for Pacific to correct the performance, a CLEC could lose so many customers that it would not

be able to stay in business. The economic harm would far outweigh the individual customer profit amounts. For example, Pacific estimates that with a thirty percent failure rate, the economic harm to the CLECs would only be measured in the profit loss from ten percent of the CLEC customers leaving the CLEC, and estimates that loss to be $219,080. Pacific Open. Comm. at 8, 11. We are not persuaded that the assumptions in this estimate are sufficiently developed for us to decide that such poor performance could be affected by such a tiny portion of Pacific's local service net return. This amount represents about four-hundredths of one percent of the payment cap.[50] Additionally, the incentive payment Pacific offers in severe non-parity conditions pales in comparison to the failure rate and the net return. Pacific offers a $7 million monthly payment for a thirty-eight percent performance failure rate. Such a failure rate is likely to severely impact competition, yet the payment represents only about six percent of Pacific's local service net return.[51]

Parties have proposed specific payment amounts that are justified by different assumptions and calculations. These payment amounts vary widely between the plans, and for us to determine which plan has the most appropriate payment amount would require examination and verification of these assumptions and any unstated variables as discussed above. Given the need to move Pacific's 271 Section application process forward, we are not in a position to thoroughly uncover and examine all these issues at this time. However, Section 271 approvals in other states provide some guidance. There is a growing consensus that the overall cap for state performance incentives plans should be

[50] $291,080/$550,059,120 = 0.000398, or less than 0.04 %.

[51] ($7,415,506 x 12)/$1,527,942,000 = 0.0582, or less than 6 %.

thirty-six percent of net return from local exchange service. We will adopt this amount for Pacific's incentive plan as discussed above. Yet for this cap to be a functional cap instead of just a hypothetical figure, there must be a way for this amount to be generated. In the extreme, we believe no party would object to the total cap being paid when an ILEC fails 100% of the performance measurements. This provides us with an anchor on which to base payment amounts for less deficient performance. For example, if we chose a linear method, ten percent of the cap would be paid for ten percent deficient performance. We find that this scaling method is consistent with the FCC's view of incentive payment amounts:

> [I]t is important to assess whether liability under an enforcement mechanism such as the APAP would actually accrue at meaningful and significant levels when performance standards are missed. Indeed, an overall liability amount would be meaningless if there is no likelihood that payments would approach this amount, even in instances of widespread performance failure. FCC BANY Order at ¶ 437.

However, for several reasons we favor Pacific's proposed curvilinear relationship between payment amounts and performance. The meaning of smaller percentages of deficient performance is ambiguous relative to larger percentages. As discussed above, considerable analysis must be performed to understand the actual impact of 10 percent missed performance measures, whereas with levels of 20 percent, 30 percent, and 40 percent missed measures it becomes increasingly clear that parity is not being provided. Additionally, we suspect that after additional evidence is provided and analyzed, that some mitigation may be warranted. For these reasons we will adopt Pacific's curvilinear escalating payment concept.

However, using the payment cap as our guide, we find that Pacific's specific payment amounts are insufficient. First, we believe that the payment cap should be reached well before 100 percent of the aggregate-level measures are being missed. While it is difficult to establish an exact missed performance percentage, we find it reasonable to conclude that when there are two missed sub-measures for every one that passes, the full cap should be paid. Given the low power of many tests, at this level of performance it is highly likely that the true percentage of misses would be closer to 100 percent. Therefore, we will anchor the payment levels on the principles that 100 percent of the cap should be paid when sixty-seven percent of the performance measures are missed, and that payments should increase in a curvilinear fashion.

Nevertheless, to adapt this "anchor" to Pacific's treatment of ordinary failure pervasiveness, we recognize that tests at the individual CLEC level will not show as high a failure rate as the industry aggregate level. Examining data from October through December 2000, we find that the aggregate level statistical failure rate is approximately 50 percent higher than the CLEC-level rate.[52] This relative percentage is corroborated by more recent data when benchmarks are also included.[53] For the above reasons, and recognizing the variability in the

[52] These relative rates are illustrated in staff's June 15, 2001 report. Figures C and E illustrate aggregate and CLEC-level failure percentage of approximately 15 and 10 percent, respectively. Init. Rept. on OSS Perf. at 16 and 18. These differences are due to the greater statistical power for tests for the larger samples (aggregate samples).

[53] March, April, and May, 2001 overall aggregate failure rates are 75, 81, and 39 percent higher than the respective CLEC-level rates for these months. March aggregate and CLEC-level failure rates are 12.9 and 7.4 percent, respectively. April aggregate and CLEC-level failure rates are 11.4 and 6.3 percent, respectively. May aggregate and CLEC-level failure rates are 8.9 and 6.4 percent, respectively. These figures are taken from performance reports requested by staff from Pacific.

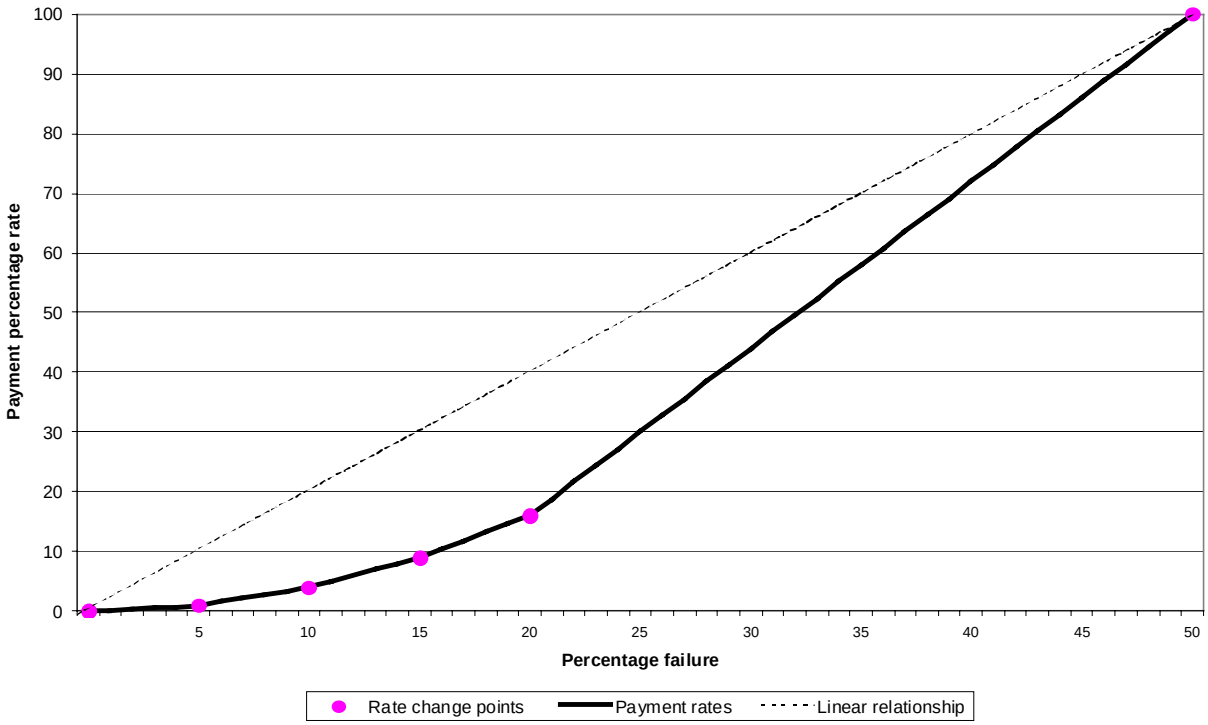
relative percentages, we find a reasonable "anchor" for basing the full monthly cap payment on single-month CLEC-level failure rates to be 50 percent.

We also acknowledge and address the ambiguity inherent in the performance measures, benchmarks, and statistical tests by requiring lower relative penalty amounts for lower failure rates and by increasing the penalty rates as performance worsens. While our payment levels are lower than those proposed by some parties, they are higher than Pacific's proposals to better coincide with the full "liability at risk," to better account for the potential damage to competition, and to better motivate parity performance. In conclusion, we are persuaded that Pacific's increasingly higher penalty rates (curvilinear) are more appropriate for an incentive plan than the CLECs' more uniformly increasing rates (linear).

Figure 5 illustrates the guide we will use for payment amounts:[54]

[54] The mathematical basis for this graph is presented in Appendix E.

Figure 5
Guide for Relationship Between Percentage of Failures and Percent of Cap Payments



The penalty rates are anchored at no payment for zero to one percent failure rates, to a 100 percent cap payment for a 50 percent single-month CLEC-level failure rate, with interim rates starting low and increasing. Specifically, our guide will be the following payment rates:

TABLE 1

Failure rate		Payment rate
Equal to or greater than	But less than	
0	1	Zero percent
1	5	Linearly increasing from zero to one percent
5	10	Linearly increasing from one to four percent
10	15	Linearly increasing from four to nine percent
15	20	Linearly increasing from nine to sixteen percent
20	50	Linearly increasing from sixteen to 100 percent
50	100	100 percent

It may not be possible for us to exactly match this rate schedule because the total monthly payment amounts are generated from multiple individual origins. However, to the extent possible, the plan we adopt today will be based on this rate structure. Examples of rates we will use as a guide are included as Appendix F. This table is based on the principles proposed in Pacific's plan. As deficient performance becomes more pervasive, the payment amounts increase.

In contrast to Pacific's payment amounts, the amounts we adopt increase continuously based on the percentage failure rate. Specifically, the payment for each single-month individual CLEC performance failure will be a *base amount* multiplied by the overall single-month CLEC-level failure rate.[55] For

[55] While Pacific and Verizon will be subject to the same incentives plan model, they will have different *base amounts* to adjust for differences of scale between the two ILECs.

Footnote continued on next page

example, with an overall single-month CLEC-level failure rate of eight percent, and a base amount of $40, the basic payment would be $320. The payments for chronic, extended, and Tier II chronic failures are 5, 10, and 25 times the basic payment. Examples of payments for different failure rates are presented in Appendix G. Compared to Pacific's proposal, the payment amounts we adopt for single-month sub-measure failures begin lower for the smallest percentages, but generally are the same as Pacific's amounts. The amounts we adopt continuously increase, in contrast to Pacific's amounts, which increase in four steps. Estimates of different total payment amounts generated by these individual payment amounts are presented in Appendix G. These amounts generally follow the curvilinear trend that we seek. They are generally less than the target amounts, especially at the lower failure rates. However, the table amounts do not incorporate the other changes we will make to the overall plan. Those changes, such as our conditional alpha provision, will likely raise these amounts.

A cursory review of incentive plan outcomes in New York and Texas indicates that our plan is certainly in the same "ballpark." However, because of the many differences in the three plans it is not possible to directly compare failure rates and payment amounts at more than a "ballpark" level. The three state plans have different numbers of measures, different weightings for outcomes, and different ways to assess outcomes, among other differences that

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The base amounts will be set so that the plan produces the same *relative* payment (percentage of net return) for similar performance levels. These amounts will also be adjusted to account for month-to-month variation in CLEC OSS activity to ensure that such volume changes do not increase or decrease payment rates even though performance rates are constant.

make direct comparisons difficult. For the sake of "ballpark" background information we present a table of failure rates and actual or estimated payment amounts for the New York and Texas state plans in Appendix H.

E. Repeated Failures

Pacific, the CLECs, and Verizon all propose that consecutive-month failures be identified for incentive payments. We agree that repeatedly deficient performance should be addressed. However, we share the concern that the FCC has voiced regarding local competition "gaming." "Gaming" refers to possible strategic behavior that either incurs or avoids payments that are not correlated to reasonable OSS performance effects.[56]

An ILEC might be able to "game" the repeated-failure provisions.[57] Under the proposed repeated-failure treatments, if an ILEC had sufficient control over its OSS processes it could strategically avoid any repeated-failure payments by giving deficient service every other month or never for more than two

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[56] For example, see the FCC's Local Competition First Report And Order for references to concern about "gaming" in other areas. *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, (1996) (Local Competition First Report and Order). ¶¶ 239, 884, 889, 1040, 1101, and Separate Statement of Commissioner Susan Ness at D2.

[57] We also recognize that a CLEC may also be able to "game" the performance incentives system. For example, a CLEC could hold its orders and submit them all at once at the end of the month. The OSS overload would cause the CLEC's orders to be more slowly processed than the ILEC's orders because the ILEC's orders would be spread across the rest of the month. This particular example may not be a real concern for several reasons. One reason is that such a strategy would be self-defeating for the CLEC. Submitting orders to solicit deficient service for its customers could cause the CLEC to lose too many customers. Additionally, we can include provisions to exclude such intentional "clustering" of orders from penalty payments. The forecasting requirements proposed by several parties may adequately address this issue. Pacific Plan at 20–21; CLEC Plan at 18–19.

consecutive months. If this occurs, it would likely be more of a problem for the "extended chronic" identifications, which require six-month consecutive deficient performance. For example, if the test passed in the sixth month, no identification could be made until six additional consecutive monthly tests failed.

Another concern we have for the repeated-failure assessments is that they decrease Type I error at the expense of Type II error. For example, using a single-month test with a Type I error cutoff of 0.20 and a Type II error of 0.30, a failure identification decision based on three consecutive monthly failures would have a net result with a Type I error limit of 0.008 and a Type II error of 0.657.[58] Intuitively, the effect on Type I error is illustrated by the fact that to fail to identify good performance as good, there must be three misses in a row, and the resultant probability is lower. For example, when flipping a coin with "heads" representing a Type I error, getting a coin to come up "heads" three times in three tosses is far less likely than getting the coin to come up "heads" in just one toss.[59] On the other hand, the effect on Type II error is illustrated by the fact that to fail to identify bad performance as bad, there only needs to be at least one miss out of three, and the resultant probability is higher. For example, when flipping a coin with "heads" representing a Type II error, getting the coin to come up

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[58] The resultant Type I error when all three out of three tests must fail individually at the 0.10 level to reach a performance failure decision: $p = 0.10^3 = 0.001$; The resultant Type II error when three out of three tests with individual Type II errors of 0.30 must fail to reach a performance decision: $p = 1 - (1 - 0.30)^3 = 0.657$.

[59] There are two possible outcomes for one coin toss: H ("heads") or T ("tails"). The probability of a "heads" is one out of two chances, expressed as one-half, 50 percent, or 0.50. There are eight possible outcomes for three coin tosses: TTT, TTH, THT, HTT, HHT, HTH, THH, and HHH. As there is only one three-headed outcome (HHH), the probability of three heads is one out of eight chances, expressed as one-eighth, 12.5 percent, or 0.125.

"heads" at least once in three tosses is far more likely than getting a coin to come up "heads" in just one toss.[60]

As with the gaming possibility, the extended chronic failure test is the most susceptible to this increased Type II error problem. Even with relatively very high power such as a seventy percent chance to detect poor performance when it occurs (a Type II error of 0.30 for a single test), the net Type II error when six consecutive statistical test failures are required is 0.882. In other words, under non-parity conditions a Type II error is virtually assured.

Because of this imbalance between these two types of errors, we will implement two provisions designed to mitigate the discrepancy. First, for the extended chronic failures to be identified, we will only require five out of six consecutive tests to fail.[61] Second, to ensure that parity performance has been achieved subsequent to a repeated-failure identification, we will require two consecutive months to pass before sub-measure failure payments are returned to non-chronic or non-extended chronic payment levels. The CLECs proposed this provision for their chronic failure treatment (CLEC Plan at 9), and we agree that it is an appropriate provision to reduce the chances of gaming and to increase the chances of identifying and correcting poor performance when it occurs.

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[60] Again, there are two possible outcomes for one coin toss: H ("heads") or T ("tails"), with the probability of a "heads" being one out of two chances, or 0.50. Again, there are eight possible outcomes for three coin tosses: TTT, TTH, THT, HTT, HHT, HTH, THH, and HHH. However, since seven of these outcome have at least one "heads," the probability is seven out of eight chances, expressed as seven-eighths, 87.5 percent, or 0.875.

[61] Requiring five out of six months to fail at the 0.20 critical alpha level produces a net critical alpha of 0.0016 (Type I error), and assuming a single-month beta of 0.30, produces a net beta of 0.580 (Type II error). Staff determined these values using a binomial calculation.

Pacific proposes that when there is no activity by a CLEC or CLEC aggregate[62] for a month during an otherwise consecutive "run" of performance failures, that the "run" not be considered a repeated failure. Pacific Repl. Comm. at 4-5 (June 1, 2001). The CLECs disagree, and Verizon's plan ignores such a month without activity. CLEC Open. Comm. at 9 (May 11, 2001); Verizon Assumptions documentation (May 16, 2001)[63] For example, Pacific would not consider the performance failures during the months of January through April except for inactivity in March, to constitute a repeated (chronic) failure, whereas the CLECs and Verizon would identify it as a repeated failure. We wish to avoid the situation where the only performance received by a CLEC or the CLEC industry on a particular submeasure is failing, yet payments stay at a one-month failure payment amount as if it were an isolated incident. Therefore, we will adopt the CLEC-Verizon position, except that a gap of inactivity of longer than three months will interrupt the "run" unless the sub-measure is one that is identified as having no minimum sample size.

F. Severity

Adjustments for the severity of performance failures can enhance an incentive plan's ability to target the most deficient performance by making incentive payments greater for the more severe failures. While Pacific's plan

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[62] When individual CLEC results do not meet sample size minimums, they are aggregated with other sub-minimum CLEC samples to create a CLEC small sample aggregate. D.01-01-037, App. C at 4.

[63] Two-page document setting forth the assumptions used to code each plan for the simulation. Distributed by Verizon Communications by electronic mail to the active technical experts on the service list. Originally titled "VZASSUMPTIONS.doc."

does not address severity, the CLECs', Verizon's, and ORA's plan include severity adjustments.

The CLECs' and ORA's plans indirectly address severity by using the probability statistic, Z, as a surrogate for severity. All other things being equal, as a performance failure becomes more severe, the corresponding Z-statistic becomes larger (smaller p-values). However, all things are not equal. For example, the Z-statistic is also influenced by sample size. This influence can easily overshadow actual performance differences to the point where a less severe performance result can have a larger Z-statistic than a much worse result if its sample size is sufficiently larger. Citing one actual sub-measure example, an ILEC took an average of nine days to provision service for its own retail customers, an average of 15 days for CLEC A's customers, and an average of 12 days for CLEC B's customers. With sample sizes of 9 and 118 cases for CLEC A and B, respectively, the statistical test produced a Z-statistic of 2.0 for CLEC A and 3.5 for CLEC B.[64] Even though performance was worse for CLEC A, CLEC B received a larger Z-statistic because of the larger sample size. This is simply because we can have greater confidence (higher Z-statistics, lower p-values) in results for larger samples. However, the CLEC and ORA severity proposals would identify CLEC B's less severe results as more severe than CLEC A's results even though this is not the case. Because of the possible confounding with other variables, such as sample size, we decline to adopt the severity adjustment proposals of either the CLECs or ORA.

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[64] As listed in Pacific's performance reports using the *Interim Opinion* statistical model. The mean of the logs for each result was transformed back into days for the performance figures listed here. The non-transformed means were 20 days for CLEC A and 12 days for both CLEC B and Pacific.

In contrast, Verizon's plan addresses severity by calculating how much worse performance is to CLEC customers than to Verizon's own customers. In general, Verizon's plan calculates the percentage of customers who receive service worse than the average ILEC customer (or the benchmark), and then uses that number as a measure of severity to adjust payment amounts. The severity measure is an integral part of Verizon's transaction-based incentive payment system, and we find it difficult to convert to the sub-measure-based approach we adopt. As a consequence, we decline to adopt Verizon's severity adjustments. However, we appreciate these development efforts and encourage Verizon to continue this development in the next phase of the incentive plan.

We encourage all parties to continue to develop severity measures for the incentive plan. Insofar as a severity adjustment might scale payments to the degree of harm and help ILECs focus on the most needed OSS enhancements, we are interested in adopting such adjustments in the future.

G. Statistical Testing for Benchmarks

Pacific proposes statistical testing for benchmarks and focuses its justification on reducing random variation effects on assessments with underlying compliant conditions. Pacific Open. Comm. at 19-21 (May 18, 2001). However, for us to fairly implement such a treatment, we would need to also examine the effect of random variation on assessments with underlying non-compliant conditions. We struck a balance between the two effect types, or error, in the *Interim Opinion*, and without additional study and justification we will not change that balance. *Interim Opinion* at 116-124. Consequently, we will not apply statistical testing to benchmark sub-measure results.

H. Functionality

An important distinction between the plans is their functionality in fundamental areas. A plan should be consistent across time and should reflect differences in performance. Since we will adopt one plan for both ILECs, we need to know that the plan we select will produce equitable outcomes for both ILECs. The plans should also produce payment amount levels that are consistent with the "curvilinear" payment amount guide we established above.

Pacific's plan provides relatively consistent output and is correlated to aggregate failure rates for the year 2000. The other plans' payment amounts are either not significantly correlated to aggregate failure rates and/or are inconsistent month-to-month.[65] Since Pacific's plan is not based on volume metrics, the payment amounts can be adjusted for Pacific and Verizon to account for the different size of the two companies and to match the "curvilinear" payment guide.

The CLEC plan payment amounts are much higher than our payment amount guide. The plan does not appear to be as sensitive to overall failure rates as the Pacific plan. Verizon's and ORA's plans are inconsistent from month-to-month, producing wide variations in payment amounts that are not related to the relatively small variations in aggregate failure rates. Other problems with severity and volume-related metrics make the Verizon, CLEC, and ORA plans

[65] For Pacific's performance and payments, the correlations between payment amounts and failure rates are 0.42 for Pacific's plan, 0.13 for the CLECs' plan, -0.12 for Verizon's plan, and -0.01 for ORA's plan. Only Pacific's correlation is significant at the 0.10 level (N = 12). The graphs at the end of Appendix B illustrate the relationship between monthly payment amounts and failure rates.

difficult to implement consistent with the criteria we have discussed in this decision.

For the above reasons, we find that Pacific provides the best base plan. However, as discussed, we find that several significant modifications are necessary for the plan to be consistent with the criteria we deem important. We will adopt Pacific's basic plan with these major modifications.

I. Measures

Not all performance measures will be subject to incentive payments. In the February 2001 workshops the parties referred to an existing agreement regarding excluded measures. At staff request, Verizon later submitted the list of performance measures and sub-measures to be excluded from the incentive payment plans.[66] That document is included in the record in this proceeding and is reproduced here as Appendix I. However, in their recent comments, Verizon proposes only a subset of these measures be used because other measures are correlated to the remaining set. Their rationale is that paying on a measure as well as a correlated measure results in duplicative payments. Verizon Plan at 4 (May 4, 2001). However, since the plan we adopt is scaled to Pacific's and Verizon's individual payment caps, their total payment amounts are no different than if fewer measures were used. Where there may be correlated measures, there is still value in multiple measurements, unless the measures have perfect or

[66] The document states that Pacific, GTE, and the CLECs agreed to these exclusions. The document was resubmitted following the February 7, 8, and 9, 2001, workshops and was received in this proceeding as 2000 GTE Workpaper #13 on April 2, 2000.

near-perfect correlations.[67] We have no evidence to suggest that these performance measures are so highly correlated that they add no value to the assessment. Additionally, these measures were established in a collaborative process and we do not wish to depart from the conclusions in that collaboration because of the wishes of one party. For the above reasons, we will use all performance measures except for those that the parties have agreed to exclude as listed in 2000 GTE Workpaper #13.

J. Remedy Exclusivity

Both Pacific and Verizon ask that payments made under the adopted incentives plan be the exclusive remedy for deficient performance. The CLECs oppose exclusivity, however, and point out that Pacific and the CLECs agreed in 1998 that performance incentives would not be the sole remedy. CLEC Open. Comm. at 36.[68]

Pacific now supports payment exclusivity asserting that performance related payments must be defined as liquidated damages or penalties, and that penalties are unenforceable under California law. Pacific Open. Comm. at 26.

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[67] *See* W. Hays, Statistics at 717-720 (5th ed. 1994), for a statistical explanation. See also E. Ghiselli, J. Campbell, and S. Zedeck, Measurement Theory for the Behavioral Sciences, at 162-168, 261 (1981).

[68] The agreement reads: "The parties agree that monetary performance incentives are not the exclusive remedy available to address Pacific's service problems." Late Filed Joint Comments Regarding Report on Performance Incentives, filed October 5, 1998, by Pacific Bell and the CLECs, at 48. Verizon (then GTE California Incorporated) participated in some discussions that led to the joint motion. Id. at 1. However, Verizon did not participate in incentives discussions, and was not a party to the motion itself. *Id.* at 1, fn. 1; Motion to Accept Joint Comments Regarding Report on Performance Incentives, filed October 5, 1998, Pacific Bell and the CLECs, at 1, fn. 1.

Pacific asserts that as a consequence, "performance-related contractual payments must be considered liquidated damages." *Id.*

Verizon also takes the position that payments should be the sole remedy and should be defined as liquidated damages. Verizon Reply Comm. at 29. Verizon argues that to define payments as penalties would require that penalties be paid only under the provisions of Pub. Util. Code § 2104, which would require Superior Court action. Verizon argues that as a consequence, payments defined as penalties could not be "self-executing" as intended in the plans. Verizon further argues that since a self-executing plan cannot impose monetary penalties, any payments must be a "reasonable estimate of fair compensation" and thus must be treated as liquidated damages as the sole remedy for failed OSS performance. Verizon fears that without this protection a CLEC will be able to automatically recover compensation for deficient OSS performance and then sue for further damage payments. Verizon Reply Comm. at 29–33.

The CLECs argue that neither the FCC nor the Commission in this proceeding has sought incentive payments as "fair compensation," and that payments should be treated as penalties. CLEC Open. Comm. at 36–40. The CLECs distinguish between the ILECs' asserted goals of "fair compensation" and the goal of the plan as an "incentive" mechanism. The CLECs' arguments imply that "fair compensation" for losses due to OSS disadvantages would not provide sufficient incentive for an ILEC to provide OSS parity. *Id.* As a consequence, the CLECs argue that incentive payments must be deemed "penalties" which are not the exclusive remedy for deficient OSS performance to their customers. *Id.* at 39.

We are not persuaded by Pacific's and Verizon's arguments that this Commission should declare the incentive payments to be the exclusive remedy

for deficient performance. In fact, we note that in its *BANY Order* the FCC asserted that "[i]t is not necessary that the state [enforcement] mechanisms alone provide full protection against potential anti-competitive behavior by the incumbent."[69] The FCC further acknowledged that the ILEC might be subject to "payment of liquidated damages through many of its individual interconnection agreements" and "risks liability through antitrust and other private causes of action if it performs in an unlawfully discriminatory manner."[70]

We likewise reject Verizon's insistence that Pub. Util. Code § 2104 compels us to decree the incentive payments to be liquidated damages and the CLECs' exclusive remedy for discriminatory ILEC performance. Given the level at which we set the payments today, we consider them to be an inducement of appropriate market behavior rather than penalties.[71] This record does not support the determination that the incentive payments will be "fair compensation" to a harmed CLEC. What constitutes fair compensation to the CLECs would be extremely difficult to calculate. Moreover, the goal of the proceeding is not to provide "insurance" payments to a CLEC (that it will receive fair compensation while it is being discriminated against), but to ensure that there is a competitive market. Significantly, this Commission has the authority to award reparations, not damages. *See* Garcia v. PT&T Co. 3 CPUC2d 534 (1980). In addition, we have crafted this plan in concert with the parties in order

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[69] *BANY Order* at ¶ 430, 15 FCC Rcd 4165.

[70] *Id.*

[71] The Commission has previously used financial incentive mechanisms to encourage utility behavior. *See* In the Matter of Used Household Goods Transportation by Truck 1998 Cal. PUC LEXIS 431; In Application of Pacific Gas and Electric Company 12 CPUC2d 604 (1983); and CPUC Resolution E-3657 (February 17, 2000).

to implement the federally mandated restructuring of the local market. The self-executing enforcement aspects of the plan establish a showing to the FCC of compliance with our performance standards in satisfaction of the requirements of Sections 251 and 271.

K. Implementation

The ILECs in particular will have a number of tasks to complete before the plan we adopt can be implemented. They must establish procedures for monitoring, assessment, reporting, and making payments. The CLECs and the ILECs must prepare for possible dispute resolution. Some of the performance assessment requirements may require modification in view of Pacific's experience with *Interim Opinion* implementation. To aid the parties in these implementation tasks, we establish specific requirements. Some of these requirements are in response to issues raised in the various briefs. Other issues may not have been formally presented, but must be addressed in order to expedite the implementation process. Parties' comments on this decision draft will likely help guide us as we specify these requirements.

1. Forecasting

Pacific and the CLECs have agreed that forecasts of OSS demand are important to smooth and efficient OSS operation, and that inadequate CLEC forecasts should be cause for excluding incentive payments in the event that deficient OSS performance resulted from such forecasts. CLEC Plan at 18–19; Pacific Plan at 20–21. ORA is concerned that Pacific may unilaterally define forecast inadequacy. ORA Open. Comm. at 7. However, the CLECs have agreed to provide forecasts as proposed by Pacific. CLEC Plan at 18–19; Pacific Plan at 20–21. As the CLECs and the ILECs are in the best position to know how to

implement forecasts for the purposes of OSS operation, we adopt these provisions.

2. Monitoring and Reporting

The ILECs will monitor OSS performance continuously. In the performance measurements proceeding we have established the performance measures on which the incentive payments will be based as well as the performance measures that are used solely for diagnostic purposes. These measures undergo periodic review and updating. D.01-05-087 (May 24, 2001) (*JPSA Opinion).*

The *JPSA Opinion* also established performance-reporting requirements. Pacific is now required to report performance results by the twentieth calendar day of the month succeeding the reporting period. *JPSA Opinion* at 106.[72]

3. Payments

Pacific proposes to make payments within thirty days of the due date of the performance results report. Pacific Plan at 16. For example, performance reports for August 2001 would be due on or before September 20, 2001. Payments arising from the August 2001 performance results would be due on or before September 19, 2001. No parties oppose Pacific's proposed payment schedule. As the schedule has no opposition, and seems to provide a reasonable amount of time to ensure accurate payment, we will adopt it as proposed.

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[72] The *JPSA Opinion* contained several requirements that needed to be completed before the due date of the 15th of each month was shifted to the 20th. *Id.* Upon staff inquiry, Pacific personnel reported that those conditions were met and Pacific is currently reporting on the 20th of each month.

4. Payment Recipients

Two goals will guide our selection of who receives the performance incentives plan payments. First, the plan should provide some compensation to each CLEC when it receives poor performance as established by the performance criteria and payment structures we have established in this Decision and D.01-01-037. Second, since the payments to the CLECs are not likely to create sufficient incentives for optimal OSS behavior, the overall industry-wide effect of OSS performance on competition should generate additional incentive payments. This will be especially true while CLEC market share is low. With a small percentage of the market, compensation for poor performance necessarily based on that small percentage is not likely to provide much incentive to the ILECs. Payments could simply end up being seen as the "cost of doing business," and not be effective in motivating optimal OSS performance. Additional payments based on overall industry effects will provide an incentive for this potential problem.

To address the first goal, we will require that payments go directly to each CLEC whose monthly sub-measure results the plan identifies as warranting payment for failing performance. These payments will be termed Tier I payments and include payments for individual CLEC results, small sample aggregate CLEC results, and CLEC results where the only logical measure is at the industry level.[73] In the Tier I aggregate results, only those CLECs whose customers receive worse performance than the ILEC customers will be eligible for payments.

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[73] For example, Measure 42, Percent of Time Interface is Available, is only tracked at the CLEC industry-aggregate level since the interface either works and is open to all CLECs, or it does not work and is closed to all CLECs.

The second goal, incentive payments based on overall industry effects, is achieved through incentive payments generated by industry-wide ILEC OSS performance. Individual CLEC results are aggregated into one performance result for each sub-measure. Payments are generated from each sub-measure with failing performance. These payments will be termed Tier II payments. Recognizing that the total payment made by an ILEC is designed to be an incentive for good OSS performance, and thus will exceed the measure of CLEC economic harm, it is appropriate for these payments to go to a public fund as proposed by Pacific and the CLECs, or to the ratepayers as proposed by ORA. See *supra*.

ORA proposes that incentive payments go to ratepayers through Pacific's Rule 33 [74] and Verizon's Tariff 38 [75] surcharge and surcredit mechanisms. ORA's rationale is that incentive payments should go to ratepayers because the ratepayers paid for the infrastructure changes and upgrades that the ILECs made to effectuate local exchange competition.[76] ORA argues that since ratepayers are making a significant investment in the ILECs' OSS infrastructures, it follows that they should receive incentive payments, which are directly related to the extent that those infrastructures do not perform as they should. ORA argues that to the extent that OSS performance presents competition barriers, not only will ratepayers have borne the cost for the ILECs' OSS-related

[74] Schedule Cal. P.U.C. No. A2.1.33 – Billing Surcharges of Pacific's tariffs ("Rule 33").

[75] Schedule Cal. P.U.C. No. 38 – Billing Surcharges of Verizon's tariffs ("Tariff 38").

[76] D.00-09-037 authorized Pacific to recover $87.5 million in claimed Local Competition Implementation Costs from California ratepayers. Similarly, D.01-09-063 authorized Verizon to recover $12 million in claimed costs.

infrastructure, they also will not have received the economic and social benefits of competition which motivated the 1996 Telecommunications Act.

Under ORA's plan, incentive payments would be calculated on an annual basis and paid in monthly increments during the following year through the Rule 33 and Tariff 38 mechanisms. As authorized in D.00-09-037 and D.01-09-063, Rule 33 and Tariff 38 billing surcharges are used to compensate Pacific and Verizon for the costs they incurred to implement local competition. The Rule 33/Tariff 38 billing mechanisms would flow the incentive payments back to all ratepayers, including CLECs and inter-exchange carriers, in the same proportion as the local competition implementation infrastructure costs that each customer class (e.g. toll, access, and exchange) is paying through annual surcharges. ORA points out that the Commission adopted "Service Quality Assurance Mechanisms" for both Citizens Telephone (D.95-11-024) and GTE California, Inc., (D.94-06-011) in which violations of the service standards resulted in surcredits to ratepayers, and that CPUC General Order 133 (GO-133) also provides for ratepayer surcredits in the event of poor service by a regulated telephone company.

Exogenous cost changes and other regulatory surcharges and surcredits are included in the annual Price Cap filings that Pacific and Verizon are required to make every October. In the annual filings, the utilities identify specific cost changes (increases and decreases) that occurred in the prior period (e.g., from October 1 through September 30). These cost changes are combined and summed to determine the dollar amount of surcredits or surcharges to be reflected on a customer's monthly bills during the next calendar year. Surcredits and surcharges, such as Pacific's merger savings and local competition implementation costs, are distributed between three groups of services in proportion to each group's share of Pacific's total annual billing base. These

groups are IntraLATA Exchange, IntraLATA Toll Services, and IntraLATA Access Services. The new surcredit or surcharge percentages are applied to the tariffed rate of the individual services that comprise each of the three service groups (IntraLATA toll, access, and exchange). The adopted surcharge or surcredit percentage is applied to the tariffed rate for the services in each service group. This is the price that the customer pays for the respective service for the following year.

In D.00-09-037 and D.01-09-063 we used Rule 33 and Tariff 38 as the mechanisms for the payment of Pacific's and Verizon's local competition implementation infrastructure costs by their customers. Rule 33 and Tariff 38 surcharges/surcredits appear as separate line items on Pacific's and Verizon's bills respectively.[77] ORA argues that since the line items have already been established, there is no need for the Commission to authorize the creation of new line items, thus avoiding billing system modification expenses.

We are persuaded by ORA's arguments. Pub. Util. Code § 454 gives the Commission statutory authority to establish rates and charges for regulated telecommunications companies. Commission decisions provide precedents for service standard violations generating surcredits to ratepayers, as described by ORA,discussed *supra*. Additionally, paying into the General Fund does not provide the equitable outcome that payment to the ratepayers provides. Unlike the ratepayers, the General Fund has no investment in ILEC OSS infrastructures and is not directly affected by OSS outcomes. For the above reasons, for Tier II

[77] For example, ORA points out that the Rule 33-related line item is located in the Taxes and Surcharges section on Pacific's bills as item 6 "rate surcharge."

incentive payments, we will adopt ORA's basic proposal to make payments to the ratepayers.

However, using Rule 33/Tariff 38 mechanisms will delay payment disbursements to the ratepayers. For example, a payment incurred in January 2003 would not be reflected in the surcredits to be disbursed until 2004. In addition to the Rule 33/Tariff 38 mechanism delays, there are built-in delays for performance result and incentive payment calculations. Payments are not due until about seven weeks after the end of the month in which the performance occurred.[78] As a consequence, for example, performance incentive payments for August 2002 through July 2003 would be the most recent twelve-month's incentive payments available for the Price Cap filing in October 2003. The total Tier II incentive payment amounts for these twelve months would then be credited to the ratepayers in equal monthly increments from January 2004 through December 2004.

Given these delays, we are concerned that the performance incentives plan would not provide a timely incentive for an ILEC to provide good performance. To the extent possible, payments should immediately follow poor performance when it is identified. However, we realize that there would be numerous logistical and efficiency problems in creating an entirely new structure to provide immediate payments to each individual ratepayer. To remedy the payment time-lag, we will adopt ORA's proposal with the modification that incentive payments be made monthly into a memorandum account. However, payment *disbursements* still would be delayed. Recognizing a basic economic

[78] For example, performance results for July are due August 20th, and incentive payments generated by those results are due 30 days later, September 19th. *Supra.*

principle, that a monetary amount received in the future has less value to the recipient as the same amount received in the present, we will require that the payment account accrue interest. A ratepayer should be "indifferent" to an amount received in the future versus an amount received now if the future amount were to be increased as if the ratepayer had spent or invested the money now. Additionally, ratepayers should be "indifferent" to future payments if they perceive equity when comparing the interest rates they receive to the interest rates they pay to Pacific and Verizon. Consequently, we will require the ILECs to make monthly payments into an interest-bearing memorandum account with an interest rate equal to the tariffed rate the respective ILEC's charge their customers for late payment. The interest shall be compounded monthly, and interest accrual shall begin immediately after the incentive payments are due and shall continue to accrue on all amounts not yet credited to the ratepayers.

It is not our intent to disadvantage ratepayers as a result of the ILECs paying into the performance incentive memorandum account. Therefore, we shall require that Pacific Bell and Verizon identify in their respective separated intrastate results of operations monitoring reports[79] an adjustment clearly identifying the annual performance incentive payments. This adjustment shall remove from the California intrastate results of operations, and the earnings monitoring reports, the payments made to the memorandum account.

[79] The Pacific Bell intrastate separated earnings report is referred to as the Intrastate Earnings Monitoring Report (IEMR) and has the NRF monitoring report code PD-01-27. Verizon's report is entitled the Recorded and Adjusted Separated Results of Operations Report and has the NRF monitoring report code GD-04-01

5. Root Cause Analysis and Expedited Dispute Resolution

Pacific proposes that it be allowed to "use Root Cause Analysis to demonstrate that an apparent out-of-parity condition was attributable to an atypical event beyond the reasonable control of Pacific Bell." Pacific Plan at 14. Pacific would have the burden of proof, and if it met that burden would be able to exclude the condition (performance result) from its incentive payments. *Id.* at 15. The CLECs concur with the root cause analysis Provisions Pacific proposes except for a concern about *force majeure* events. CLEC Open. Comm. at 35. The CLECs argue that *force majeure* should not allow Pacific to treat its customers preferentially, and request that parity measures still be eligible for incentive payments. For example, in the event of *force majeure* service outages, the CLECs believe that their customers should regain service at parity with Pacific's customers.

We agree with the CLECs' position here because discrimination in restoring normal OSS services could damage competition. Following the recent terrorist attacks use it in in a than the in the than the use with, we believe customers have become especially sensitized to infrastructure recovery issues, and an ILEC could easily gain an advantageous reputation for superior recovery and robust service. For these reasons we will require that the parity assessment and incentive payment provisions continue for parity measures during *force majeure* events and the ensuing recovery period.

In 1999, Pacific and the CLECs were apparently close to an agreement on expedited dispute resolution (EDR) provisions. However, upon passage of Senate Bill 960 the CLECs introduced adaptations that Pacific

rejected.[80] Even though there were many points of agreement, an implementable EDR process is not currently available for the incentives plan. Numerous issues critical to an effective EDR process are either unresolved or unacknowledged. For instance, parties have not been able to agree on what, if any, procedural timelines and rights they are willing to waive in the interest of expedited process. Moreover, it is not clear what resource impact a formal EDR process will have on this Commission.

Pacific's current position is:

> Any dispute regarding whether a Pacific Bell performance failure is excused will be resolved, through negotiation, through a dispute resolution proceeding under applicable Commission rules or, if the Parties agree, through commercial arbitration with the American Arbitration Association. Pacific Plan at 15 (March 23, 2001).

However, there is nothing about what Pacific offers here that is "expedited." If the incentives plan we adopt did not have this paragraph, it would be no different than if it did. Given the need for further examination and discussion of these essential issues, we cannot order an EDR process at this time. We urge the parties to address these unresolved issues no later than at the conclusion of the initial implementation period. Until an EDR process is implemented, the ILECs must automatically make incentive payments as indicated by the incentive plan we adopt. The parties must use currently available Commission procedures in any disputes regarding these payments.

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[80] CLEC Open. Br. at 39 – 53 (March 22, 1999); Pacific Open. Br., at 26–39 (March 22, 1999); CLEC Reply. Br. at 26–42 (April 5, 1999); and Pacific Reply. Br. at 18–23 (April 5, 1999).

6. Payment Delays for New Measures

Pacific proposes that when new measures are introduced, payments not be made on performance failures until the fourth month:

> None of the payment provisions set forth in this plan will apply during the first three months after a CLEC first purchases the type of service or unbundled network element(s) associated with a particular performance measurement or introduction of a new measure. Pacific Plan at 14.

The CLECs partially agree. They agree that upon introduction of a new measure, the results will not be subject to incentive payments until the third full month of reportable results. CLEC Open. Comm. at 33. However, we note that new measures are adopted by the Commission after the parties have performed these initial trials. Once the Commission adopts these new measures they may produce incentive payments immediately. Prior to this implementation, however, the JPSA adopted in D.01-05-087 must be modified for a new measure to be included in the incentives plan. Proceedings to modify the JPSA and D.01-05-087 must be completed before any new measure can produce payment. It is more appropriate for the Pacific-CLEC agreement regarding new measure implementation to be included in JPSA modification proceedings. Therefore, we do not need to include this provision in the incentives plan, and we decline to do so.

Regarding Pacific's desire to be free of liability for poor performance for the three months after a CLEC first orders a new service, we do not find consensus among the parties. The CLECs object and point out that the first months can be the most critical months for a CLEC. CLEC Open. Comm. at 34. We agree. We are particularly concerned about the viability of new small CLECs who may invest precious resources in marketing new services. For an ILEC to be

free of liability for three months could easily put such new competition in jeopardy. For this reason, we decline to adopt this provision.

7. Performance Assessments

As Pacific worked to implement the *Interim Opinion* performance assessment requirements, it found a few problems. Pacific proposes modifications to correct those implementation problems. Pacific Open. Comm. at 27-28. Specifically, Pacific requests three changes: (1) that an additive constant be used for all log transformations, (2) that the Modified t-test be applied to Measure 44 without transformations, and (3) that the Fisher's Exact Test be used for all percentage-based results regardless of sample size. No party opposes these changes. For the reasons cited by Pacific, we adopt these changes. *Id.*

V. Conclusions

While we have had to base many of our determinations on estimates, we do not wish to delay this process further by performing more painstaking and time-consuming analyses that might better inform our decisions. Pacific is anxious to complete this component of their quest into the long distance market, we are anxious to bring enhanced competition to California, and a performance incentives plan is an essential part of that effort. We adopt a plan that is based on Pacific's plan because we find it to be more stable and functionally appropriate. We have made many modifications to the plan to better follow the criteria we have discussed in this decision. We offer this plan to the parties so that they may get on with the business of providing competitive phone services to California residents. We do not assert that the plan could not be improved each additional day we delay to further develop the analyses on which it is based. In this regard, we ask that parties be very clear on whether they wish to go forward with this plan on a six-month initial implementation basis, or if they

wish to assist us with further development and refinement before any implementation.

However, we believe this plan is sufficient and appropriate to give the ILECs incentives to provide non-discriminatory OSS access. We anticipate enhancements and refinements to this plan as a result of the experience and insights gained during and beyond the six-month initial implementation. In fact, we expect that the first review after the six-month initial implementation will be followed by regular periodic reviews and modifications. While this plan likely can be improved, as any state plan now in existence can be improved, it is more important to recognize that the plan is sufficient and that any instant improvements are not as important as bringing the benefits of a more competitive market to California's citizens.

VI. Comments on Draft Decision

The draft decision of ALJ Reed in this matter was mailed to the parties in accordance with Pub. Util. Code § 311(g)(1) and Rule 77.7 of the Rules of Practice and Procedure. Comments were filed on _____ and reply comments were filed on_____.

Findings of Fact

1. Performance measurements have been adopted in D.01-05-087.
2. Performance assessment criteria have been adopted in D.01-01-037.
3. The FCC has strongly encouraged states to establish regulatory incentives to ensure that ILEC OSS performance does not present barriers to competition.
4. The FCC has stated that RBOC Section 271 applications must be in the public interest to be approved.
5. The FCC has stated that "the fact that a BOC will be subject to performance monitoring and enforcement mechanisms would constitute probative evidence

that the BOC will continue to meet its section 271 obligations and that its entry would be consistent with the public interest."

6. Since the initial filing of this proceeding, the parties have collaborated to establish performance measures, performance assessment criteria, and incentive payment structures.

7. The Administrative Law Judge convened a three-day workshop to develop a payment structure that would determine monetary amounts (performance incentives) paid by the ILEC for deficient OSS performance.

8. Pacific, Verizon, the CLECs, and ORA submitted performance incentive payment structure plan proposals.

9. Pacific and Verizon performed data runs on the submitted plans to assess the payment amounts generated by actual and simulated performance.

10. The payment amounts generated by Pacific, Verizon, the CLECs, and ORA's plans vary widely, ranging from approximately $50,000 per month for Pacific's plan to approximately $9 million per month for the CLEC's plan when the plans are projected onto Pacific's performance for the last quarter of 2000.

11. At parity performance levels simulated by Pacific, the payments range from approximately $10,000 per month for Pacific's plan to over $3 million per month for the CLECs' plan.

12. At non-parity performance levels simulated by Pacific that result in a 38 percent failure rate, the payments range from approximately $1 million per month for ORA's plan to over $48 million per month for the CLEC's plan.

13. Pacific's and the CLECs' plans propose a maximum annual liability at risk of thirty-six percent of Pacific's annual net return from local exchange service.

14. Pacific's net return from local exchange service in 2000 was $1,527,942,000.

15. Pacific's proposed maximum annual liability at risk is currently $550,059,120.

16. Pacific's plan's payments per performance failure are increased depending on the pervasiveness of performance failures, also termed the failure rate.

17. Pacific's plan proposes that Pacific be forgiven for up to the percentage of failures that would be expected under parity conditions except for the worst ten percent of the time.

18. Pacific's plan increases payment amounts for repeated failures.

19. Pacific's plan applies the 0.20 conditional critical alpha level to aggregate monthly samples larger than 30 cases.

20. Pacific's 0.20 conditional critical alpha level is applied only to three-month consecutive failures.

21. The CLECs' plan increases payments for repeated failures.

22. The CLECs' plan increases payments for the severity of the individual failures effectively using the statistical test p-value as a surrogate for severity.

23. The CLEC's plan forgives a maximum of fifteen percent performance failures, except that severe failures are excluded from the forgiveness plan.

24. The CLECs' 0.20 conditional critical alpha level is applied to sample sizes of less than 30 cases.

25. The CLEC's conditional alpha provisions include a decreased critical alpha level of 0.05 percent for aggregate samples.

26. Verizon's plan proposes a maximum annual liability at risk rising from approximately $20 million in year one to $40 million in year three.

27. Thirty-six percent of Verizon's 2000 net return from local exchange service was approximately $166 million.

28. Verizon's plan payment amounts are based on transaction volumes, generally the number of CLEC customers who experience service worse than the average level for Verizon's retail customers.

29. Verizon's plan payment amounts are based on a severity measure, the percentage of CLEC customers who experience service worse than the average level for Verizon's retail customers.

30. Verizon's plan proposes a 0.20 conditional critical alpha level, the same as Pacific's conditional alpha provision.

31. Verizon's plan has a forgiveness provision similar to Pacific's.

32. Verizon's plan leaves out performance measures required by D.01-05-087 and agreements between the parties.

33. ORA's plan proposes no payment caps.

34. ORA's plan would have the payments go the ratepayers.

35. ORA's plan does not forgive any identified failures.

36. ORA's plan increases payments for the severity of the individual failures effectively using the statistical test p-value as a surrogate for severity.

37. ORA's plan does not specify a 0.20 conditional critical alpha level.

38. A payment cap of thirty-six percent of annual net return from local exchange service has been adopted by four of the seven states with Section 271 approval, and the two other states have adopted similar percentages.

39. The FCC has approved a payment cap of thirty-six percent of annual net return from local exchange service as being a sufficient incentive to motivate non-discriminatory OSS behavior, in conjunction with other incentives.

40. Procedural caps are necessary to protect ILECs against unintended financial liability caused by unforeseen circumstances.

41. Monthly procedural caps payment amounts proportional to those adopted in New York and Texas are $15 million for Pacific and $4.5 million for Verizon.

42. The ILECs have only proposed provisions to reduce Type I error and not Type II error.

43. Proposed mitigation provisions decrease Type I error at the expense of Type II error.

44. Type II error disadvantages the CLECs.

45. The appropriate percentage of statistical failures that occurs from random variation has not been accurately estimated because it is affected to an undetermined degree by statistical artifacts and by the provision of better service.

46. Log transformations have not completely normalized average-based measure data.

47. The appropriate percentage of statistical failures that occurs from random variation can be calculated from accurate performance simulations.

48. The purpose of our incentive plan is not to reward or credit an ILEC for giving OSS advantages to the CLECs.

49. The purpose of our incentive plan is to ensure that an ILEC does not present OSS barriers to the CLECs.

50. A mitigation plan equal to or greater than the critical alpha level could serve as an incentive for gaming behavior.

51. If an ILEC provided ninety percent of its OSS service that was so good that random variation had been eliminated as a potential cause for missing a sub-measure, and the remaining ten percent of the service failed the performance statistical tests, it is most likely that nearly all of the ten percent missed performance measures are actual failures.

52. There is insufficient information in the record of this proceeding to appropriately apply a correction for random variation because each type of test will have a different failure rate at parity and non-parity levels.

53. The effect of a forgiveness percentage based on the critical alpha level would be arbitrary since critical alpha levels are selected without considering forgiveness percentage effects.

54. There is insufficient information in the record of this proceeding to determine the accuracy of the performance simulations.

55. Mitigation provisions are most important when an ILEC is providing parity OSS access.

56. It is unlikely that Pacific will provide complete parity within the six-month implementation period of our performance incentives plan.

57. The net resultant alpha level for Pacific's and Verizon's conditional alpha proposal is 0.008, much smaller than the unconditional standard, 0.10.

58. Pacific's and Verizon's conditional alpha proposals increase net resultant Type II error compared to the single-month application of the 0.10 alpha level.

59. Pacific's and Verizon's conditional alpha proposals reduce Type II error compared to using a 0.10 alpha level to assess each of the three months results for the Tier II chronic failure identification.

60. The application condition for the CLEC conditional alpha proposal is sample sizes of less than thirty.

61. Alpha level adjustments are helpful to decrease Type I error especially for large samples.

62. Pacific's assessment of the economic harm suffered by the CLECs from inequitable OSS access depends on multiple assumptions.

63. Changes in the assumptions in Pacific's assessment of economic harm from inequitable OSS access for CLECs cause large changes in economic harm.

64. Pacific estimates economic harm from thirty percent discriminatory service to be less than 0.04 percent of its net return from local exchange service.

65. Pacific offers payments equaling six percent of its local exchange service net return for thirty-eight percent performance failure rate.

66. The payment cap can provide a guide for setting payments for different failure rates.

67. The interpretation of lower failure rate outcomes is more ambiguous than the interpretation of higher failure rate outcomes.

68. A curvilinear relationship between the percentage of the payment cap and the percentage of performance failures can mitigate the ambiguity of lower failure rates if lower payment percentages are established for lower failure rates and payment percentages become increasingly higher as performance worsens.

69. Establishing a curvilinear payment guide that starts with a payment of from zero to one percent of the payment cap for service with a one to five percent failure rate adjusts for the ambiguity of lower failure rates.

70. Given the low power of the statistical tests ordered in D.01-01-037, it is likely that when two out of three statistical tests fail, the actual failure rate is closer to 100 percent.

71. Payments of 100 percent of the payment cap are warranted for identified failure rates of less than 100 percent.

72. Industry aggregate performance rates are generally about fifty-percent higher than CLEC-specific performance rates.

73. Establishing a curvilinear payment guide that reaches a payment of 100 percent of the payment cap for service with a fifty percent failure rate adjusts for small samples and low statistical test power.

74. Using the curvilinear payment guide for setting payments in relation to performance, Pacific's specific payment amounts are much less than the guide.

75. The payment amounts we select generally follow the curvilinear guide at lower levels than the guide.

76. Other changes to the performance incentives plan will likely increase the payment amounts from our estimates.

77. Because of the existence of many different variables that affect payment amounts and failure rates, comparisons with payment and failure rates in other states with Section 271 approval are not precise.

78. Holding the single-month alpha level constant for identifications requiring consecutive monthly failures produces a much lower net Type I error rate than the rate for the single-month assessment.

79. When the single-month critical alpha level (maximum Type I error) is 0.20, a statistical assessment requiring three consecutive month failures to be identified as a failure for the purposes of incentive payments has a net critical alpha level of 0.008 as calculated by the formula: $p = 0.20^3$.

80. When the single-month beta result is 0.30 (Type II error), a statistical assessment requiring three consecutive month failures to be identified as a failure for the purposes of incentive payments has a net beta result of 0.657 as calculated by the formula: $p = 1 – (1 - 0.30)^3$.

81. When the single-month beta result is 0.30 (Type II error), a statistical assessment requiring six consecutive month failures to be identified as a failure for the purposes of incentive payments has a net beta result of 0.882 as calculated by the formula: $p = 1 – (1 - 0.30)^6$.

82. A binomial calculation shows that requiring five out of six consecutive month results to fail a 0.20 critical alpha statistical test to identify a statistical failure for the purposes of incentive payments results in a 0.0016 net maximum alpha level.

83. A binomial calculation shows that when the single-month beta result is 0.30 (Type II error), a statistical assessment requiring five out of six consecutive

month results to fail to be identified as a failure for the purposes of incentive payments has a net beta result of 0.58.

84. Requiring the higher payment levels for chronic failure identifications to continue for subsequent single-month failures until two consecutive months pass performance tests will reduce the potential for gaming behavior.

85. Requiring the higher payment levels for chronic failure identifications to continue for subsequent single-month failures until two consecutive months pass performance tests will increase the chances of identifying and correcting poor performance when it occurs.

86. The CLECs' and ORA's plans indirectly address severity by using the probability statistic, Z, as a surrogate for severity.

87. All other things being equal, as a performance failure becomes more severe, the corresponding Z-statistic becomes larger (smaller p-values).

88. A Z-statistic is also influenced by sample size.

89. A less severe performance result can have a larger Z-statistic than a much worse result if its sample size is sufficiently larger.

90. The CLEC and ORA severity proposals could identify one CLEC's less severe results as more severe than another CLEC's results even when this is not the case.

91. In general, Verizon's plan calculates the percentage of customers who receive service worse than the average ILEC customer (or the benchmark), and then uses that number as a measure of severity to adjust payment amounts.

92. The severity measure is an integral part of Verizon's transaction-based incentive payment system, and is difficult to convert to a sub-measure-based approach.

93. Pacific's proposal to apply statistical testing to benchmarks does not examine the effect of random variation on assessments with underlying non-compliant conditions.

94. Pacific's plan provides relatively consistent output and is correlated to aggregate failure rates for the year 2000.

95. The CLEC, Verizon, and ORA plans' payment amounts are either not significantly correlated to aggregate failure rates and/or are inconsistent month-to-month.

96. For Pacific's performance and payments, the correlations between payment amounts and failure rates are 0.42 for Pacific, 0.13 for the CLECs, -0.12 for Verizon, and -0.01 for ORA and only Pacific's correlation is significant at the 0.10 level (N = 12).

97. Pacific's plan payment amounts can be adjusted for Pacific and Verizon to account for the different size of the two companies and to match the "curvilinear" payment guide.

98. The CLEC plan payment amounts are much higher than our payment amount guide.

99. Verizon's and ORA's plans are inconsistent from month-to-month, producing wide variations in payment amounts that are not related to the relatively small variations in aggregate failure rates.

100. Other problems with severity and volume-related metrics make the Verizon, CLEC, and ORA plans difficult to implement consistent with the criteria established in this decision.

101. Several significant modifications are necessary for Pacific's plan to be consistent with important criteria.

102. Pacific, GTE, and the CLECs collaborated on 2000 GTE Workpaper #13, a list of performance measures and sub-measures to be excluded from the incentive payment plans.

103. Since our plan is scaled to Pacific's and Verizon's individual payment caps, their total payment amounts are no different than if fewer measures were used.

104. Where measures may be correlated in a performance incentive plan, there is still value in multiple measurements, unless the measures have perfect or near-perfect correlations.

105. There is no evidence in the record to suggest that the performance measures to be used in the incentive plan are so highly correlated that they add no value to the assessment.

106. The performance measures to be used in the incentive plan were established in a collaborative process.

107. To implement the performance incentive plan, the ILECs will need to implement monitoring, assessment, reporting, and payment provisions.

108. Inadequate CLEC forecasts of OSS demand would be cause for excluding incentive payments in the event that deficient OSS performance resulted from such forecasts.

109. The CLECs have agreed to provide forecasts as proposed by Pacific.

110. The CLECs and the ILECs are in the best position to know how to implement forecasts for the purposes of OSS operation.

111. In accordance with D.01-05-087, Pacific is required to report performance results by the twentieth calendar day of the month succeeding the reporting period.

112. Pacific proposes to make payments within thirty days of the due date of the performance results report.

113. Ratepayers are making a significant investment in the ILECs' OSS infrastructures.

114. To the extent that OSS performance presents competition barriers, the ratepayers will not benefit from their investment in the ILECs' OSS-related infrastructure and they will not have received the economic and social benefits of competition which motivated the 1996 Telecommunications Act.

115. Rule 33 and Tariff 38 billing surcharges are used to compensate Pacific and Verizon for the costs they incurred to implement local competition.

116. The Commission provides for surcredits to ratepayer in the event of poor service by a regulated telephone company.

117. Exogenous cost changes and other regulatory surcharges and surcredits are included in the annual Price Cap filings that Pacific and Verizon are required to make every October.

118. In the annual filings, the utilities identify specific cost changes (increases and decreases) that occurred in the prior period (e.g., from October 1 through September 30).

119. These cost changes are combined and summed to determine the dollar amount of surcredits or surcharges to be reflected on a customer's monthly bills during the next calendar year.

120. Surcredits and surcharges, such as Pacific's merger savings and local competition implementation costs, are distributed between three groups of services, IntraLATA Exchange, IntraLATA Toll Services, and IntraLATA Access Services, in proportion to each group's share of Pacific's total annual billing base.

121. The surcredit or surcharge percentages are applied to the tariffed rate of the individual services that comprise each of the three service groups (IntraLATA toll, access, and exchange).

122. The adopted surcharge or surcredit percentage is applied to the tariffed rate for the services in each service group and modifies the price that the customer pays for the respective service for the following year.

123. In D.00-09-037 and D.01-09-063 the Commission used Rule 33 and Tariff 38 as the mechanisms for the payment of Pacific's and Verizon's local competition implementation infrastructure costs by their customers.

124. Rule 33 and Tariff 38 surcharges/surcredits appear as separate line items on Pacific's and Verizon's bills respectively.

125. Using Rule 33/Tariff 38 mechanisms will delay payment disbursements to the ratepayers. For example, a payment incurred in January 2003 would not be reflected in the surcredits to be disbursed until 2004.

126. Since the line items have already been established, there is no need for the Commission to authorize the creation of new line items, thus avoiding billing system modification expenses.

127. There would be numerous logistical and efficiency problems in creating an entirely new structure to provide immediate payments to each individual ratepayer.

128. A monetary amount received in the future has less value to the recipient as the same amount received in the present.

129. A ratepayer should be "indifferent" to an amount received in the future versus an amount received now if the future amount were to be increased as if the ratepayer had spent or invested the money now.

130. Ratepayers should be "indifferent" to future payments if they perceive equity when comparing the interest rates they receive to the interest rates they pay to Pacific and Verizon.

131. Discrimination in restoring normal OSS services following widespread disruption due to accidents or other events could damage competition.

132. The record does not include an implementable EDR process.

133. A timeline for commencement of payments generated by new measures can be established in the performance measurement part of this proceeding.

134. Absence of ILEC liability for poor OSS performance to CLEC customers for the first three months of a CLEC's new service could jeopardize new competition.

Conclusions of Law

1. Through this incentive plan, Pacific and Verizon should be subject to performance monitoring and enforcement mechanisms.

2. Procedural caps should be adopted to protect ILECs against unintended financial liability caused by unforeseen circumstances.

3. The selection of an appropriate forgiveness percentage would be arbitrary because it is dependent on the critical alpha level selected for other reasons.

4. As determined by the Commission-approved performance measures and assessments, Pacific is not providing OSS parity.

5. The CLEC conditional alpha proposal is consistent with our directions in D.01-01-037.

6. Our estimated payment amounts in California are roughly comparable to actual payment amounts in Texas and New York.

7. Information that indicates an increased Type II error likelihood will help target alpha level adjustments to decrease Type II error where it is likely to be more beneficial.

8. Information that indicates an increased Type I error likelihood will help target alpha level adjustments to decrease Type I error where it is likely to be more beneficial.

9. A reasonable "anchor" for assessing the full monthly payment cap amount is a single-month CLEC-specific failure rate of fifty percent.

10. Using the curvilinear payment guide for setting payments in relation to performance, Pacific's specific payment amounts are insufficient.

11. Adjustments for the severity of performance failures can enhance an incentive plan's ability to target the most deficient performance by making incentive payments greater for the more severe failures.

12. Statistical tests provide greater confidence (higher Z-statistics, lower p-values) when applied to larger samples, compared to otherwise equal small samples.

13. Without an examination of the effect of random variation on assessments with both underlying compliant and non-compliant conditions, we cannot fairly implement statistical testing for benchmarks.

14. A performance incentives plan should be consistent over time.

15. A performance incentives plan should reflect differences in performance.

16. A performance incentives plan should produce equitable outcomes for both ILECs.

17. Pacific's plan, with several significant modifications set forth in Appendix J, should be adopted as the best base plan consistent with important criteria.

18. The list of all the measures and sub-measures excluded from incentive payments, set forth in 2000 GTE Workpaper #13, should be adopted.

19. The CLECs should provide forecasts as proposed by Pacific in its March 23, 2001 proposed plan.

20. Pub. Util. Code § 2104 does not compel us to decree the incentive payments to be liquidated damages and the CLECs' exclusive remedy for discriminatory ILEC performance.

21. We have crafted this plan in concert with the parties in order to implement the federally mandated restructuring of the local market.

22. Pub. Util. Code § 454 gives the Commission statutory authority to establish rates and charges for regulated telecommunications companies.

23. The Commission should require Tier II performance incentive payments to go to ratepayers through Pacific's and Verizon's surcharge and surcredit mechanisms: Pacific's Rule 33 (Schedule Cal. P.U.C. No. A2.1.33 – Billing Surcharges of Pacific's tariffs), and Verizon's Tariff 38 (Schedule Cal. P.U.C. No. 38 – Billing Surcharges of Verizon's tariffs).

24. Since ratepayers are making a significant investment in the ILECs' OSS infrastructures, it follows that they should receive incentive payments, which are directly related to the extent that those infrastructures do not perform as they should.

25. Rule 33 and Tariff 38 billing surcharges are appropriately used to compensate Pacific and Verizon for the costs they incurred to implement local competition.

26. The Commission should provide surcredits to ratepayers in the event of poor service by a regulated telephone company.

27. The Commission should require the ILECs to make monthly payments into an interest-bearing memorandum account, with an interest rate equal to the tariffed rate the respective ILEC's charge their customers for late payment, with the interest compounded monthly, and with interest accrual beginning immediately after the incentive payments are due and continuing to accrue on all amounts not yet credited to the ratepayers.

28. The Commission should require that Pacific Bell and Verizon identify in their respective separated intrastate results of operations monitoring reports an adjustment clearly identifying the annual performance incentive payments, and

remove from the California intrastate results of operations, and the earnings monitoring reports, the payments made to the performance incentive memorandum account.

29. Incentive payments should not be the exclusive remedy for deficient performance.

30. An implementable EDR process is not currently available for the incentives plan.

31. Until an EDR process is implemented, the ILECs should automatically make incentive payments as indicated by the incentive plan we adopt.

32. Until an EDR process is implemented, the parties should use currently available Commission procedures in any disputes regarding these payments.

33. When new measures are introduced, payments should not be made on performance failures until the fourth month.

34. Under the adopted incentive plan, results for the first three months with activity for a new measure should not be subject to payments.

35. Regardless of which day during the month a CLEC first accesses the newly measured OSS function, that month should be deemed the first month for calculation purposes under the adopted payment plan.

36. The first, second, and third months' performance results should not be subject to incentive payments, and the fourth month should be subject to payments, with the results reported on the 20th day of the fifth month, and payments due thirty days thereafter.

37. Delineated changes to the performance assessment requirements of D.01-01-037 should be made to successfully and efficiently implement the performance incentives plan.

38. The incentive plan set forth in Appendix J is reasonable, consistent with law, and in the public interest.

39. This decision should be effective today so that the incentive plan can be promptly implemented.

O R D E R

IT IS ORDERED that:

1. A performance incentives plan, which identifies performance failures and non-failures, as specified in Appendix J incorporated by reference herein, shall be adopted for Pacific Bell (Pacific) and Verizon California Inc. (Verizon).

2. The performance incentives plan, comprised of the performance measurements adopted in Decision (D.) 01-05-087, the decision model adopted in D.01-01-037 and as modified herein, and an incentive payment component adopted herein, shall be implemented for an initial period of at least six months or until otherwise modified by this Commission.

3. The same performance incentives model shall be applied to Pacific and Verizon .

4. Incentive payments, as specified in Appendix J of this decision, shall commence the first full month following the effective date of this order.

5. Following the six-month initial period, the performance of the incentives plan model shall be reviewed. Such review shall examine how the incentives plan model is functioning and shall include any adjustments and modifications to the components as well as the resolution of any issues remaining from D.01-01-037.

6. The schedule for the incentives plan model review shall be set by separate ruling.

This order is effective today.

Dated _____, at San Francisco, California.

APPENDICES A THRU K