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By Electronic Filing

Marlene H. Dortch, Secretary
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, D.C. 20554

Re: *Written Ex Parte*
UNE Triennial Review – CC Docket No. 01-338
Local Competition – CC Docket No. 96-98
Deployment of Advanced Wireline Services – CC Docket No. 98-147

Dear Ms. Dortch:

Attached for inclusion in the record of the above-referenced proceedings pursuant to 47 C.F.R. § 1.1206(b) is WorldCom's response to SBC's and BellSouth's proposed margin-based approach to determining impairment with respect to unbundled switching, as well as their critiques of the MiCRA model analyzing the cost of serving residential customers using UNE loops, submitted with WorldCom's *ex parte* submission of January 8, 2003.

Sincerely,

/s/ Gil M. Strobel
Gil M. Strobel

Attachments

cc:	Scott Bergmann	Matthew Brill	Michelle Carey
	Jeffrey Carlisle	Barbara Cherry	Jordan Goldstein
	Daniel Gonzalez	Linda Kinney	Christopher Libertelli
	Jeremy Miller	Steven F. Morris	Thomas Navin
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WorldCom Response to SBC and BellSouth Critique of MiCRA Model

The debate over whether switching must continue to be unbundled for mass market customers today in virtually all central offices has focused attention on the question of whether impairment should be analyzed based on a comparison of competitive local exchange carrier (“LEC”) costs to incumbent LEC costs or whether it should be based on a comparison of competitive LEC costs to current retail prices. There is no dispute that competitive LECs face substantial cost disadvantages in serving mass market customers via their own switches in central offices of any size. WorldCom demonstrated as much in its January 8 *ex parte*,¹ and neither SBC nor BellSouth challenges this conclusion in their recent *ex partes*.² Indeed, SBC’s own analysis actually confirms that competitive LECs face a substantial cost disadvantage in serving mass market customers.

SBC and BellSouth, however, urge the FCC to ignore the cost disadvantages faced by competitive LECs, and look instead at whether competitors could profitably enter the market using UNE-L at today’s retail rates, without considering likely pricing responses by incumbent LECs. The failure to consider likely changes in price is a fatal defect, and ensures that the approach proposed by SBC and BellSouth will yield results that are useless in determining impairment. By contrast, WorldCom has proposed that the Commission focus on cost disadvantages. This approach is based on sound economics and marketplace realities, as well as the *USTA* decision³ and established antitrust law. The economics and the law yield the same conclusion: absolute cost differentials, economies of scale, and sunk costs constitute barriers to entry.

Contrary to the assertions of the BOCs, WorldCom is not arguing that *any* cost disadvantage amounts to impairment. Instead, WorldCom is arguing that impairment is caused by cost disadvantages more than minimally greater than those disadvantages faced by new entrants in all industries. Moreover, to the extent the Commission seeks a bright-line rule, WorldCom here proposes that the Commission could adopt a test, to be used by state commissions, under which impairment would be found to exist if there is greater than a 5 percent cost disparity between the UNE-P price and the set of costs required to

¹ Letter from Donna Sorgi, WorldCom, to William F. Maher, FCC, attached to letter from Gil M. Strobel to Marlene H. Dortch (Jan. 8, 2003) (“*WorldCom Jan. 8 ex parte*”). (Unless otherwise indicated, all comments and *ex parte* filings referenced herein were filed in CC Docket No. 01-338.)

² Letter from James C. Smith, SBC, to Chairman Michael Powell, FCC (Jan. 14, 2003) (“*SBC ex parte*”); *ex parte* presentation attached to letter from Robert T. Blau, BellSouth, to Marlene H. Dortch, FCC (Jan. 16, 2003) (“*BellSouth ex parte*”).

³ *United States Telecom Assoc. v. FCC*, 290 F.3d 415 (D.C. Cir. 2002) (“*USTA*”).

serve mass market customers via UNE-L, with a presumption that smaller disadvantages do not constitute impairment.

After focusing on the basic issue of the impairment standard, WorldCom (1) responds to SBC's specific criticisms of the MiCRA model submitted in WorldCom's January 8 *ex parte*, while noting that none of these criticisms challenges the basic conclusion of that model that competitive LECs face substantial cost disadvantages in serving customers via UNE-L; (2) shows that SBC's analysis of impairment would be incorrect even if the impairment standard were based on today's retail costs; and (3) shows that competitive LECs continue to face operational barriers to use of UNE-L that are independent of barriers related to cost.

I. The Impairment Analysis Should Focus on Cost Disadvantages

SBC's own analysis demonstrates that competitive LECs face a cost disadvantage of \$6.86 per line in serving customers via UNE-L.⁴ And SBC does not challenge the conclusion that many of the costs faced by competitive LECs are sunk costs. Under these conditions, there can be no doubt that competitive LECs would be impaired without unbundled switching. Sound economics, prior court decisions on impairment, and antitrust law all demonstrate that the impairment analysis must focus on cost.

A. Cost Disadvantages Are Critical as a Matter of Economics

An impairment analysis that focuses on cost disadvantages of competitive LECs is the best approach to understanding the dynamics of the local marketplace, and assessing the likelihood that a firm will enter and begin offering local service.⁵ When a firm considers whether to enter a particular market, one reasonably would expect it to evaluate its own costs and the costs of its competitors in order to determine whether it will be able to earn normal profits post-entry. This evaluation would include an assessment of the likely competitive response of the incumbent firm(s) with which it will be competing. If the potential entrant knew that its costs were significantly higher than those of an incumbent, it could anticipate that the incumbent firm likely would respond to new entry by lowering prices to a point that is above the incumbent's costs, but below those of the new entrant.⁶ This is especially true where entry involves substantial sunk costs, as it does in the case of UNE-L-based local service. As Professor Willig explains:

⁴ See n.43, *infra*.

⁵ For a competitive LEC, converting its existing customer base from UNE-P to UNE-L is tantamount to making a decision to enter the market for the first time. Initiating UNE-L-based service requires the commitment of substantial sunk costs in each central office the competitive LEC seeks to serve.

⁶ This does not require the incumbent LECs to engage in predatory pricing. Following entry by the competitive LECs, the profit-maximizing prices set by the incumbent LECs may fail to provide the competitive LECs with an adequate return on capital.

[W]here entry involves sunk costs, it is rational for the incumbent to respond to new entry by pricing all the way down to its short run marginal cost, which (because of the existence of sunk costs) is likely below the incumbent's (and the entrant's) average cost. The rational prospect that the incumbent will do this makes it less likely that an entrant can be profitable, and its entry will thus be deterred.⁷

The approach advocated by SBC and BellSouth, by contrast, reveals nothing meaningful about how eliminating UNE switching would affect the state of competition, output, prices, consumer welfare, and the likelihood of further competitive LEC entry. An increase in the marginal costs of the competitive LECs will result unambiguously in lower output even were they to enter the market.⁸ Further, the policy will reduce substantially the likelihood of entry, because even if current margins sustain entry, future margins will be much smaller and expose the competitive LECs to substantial risks of not recovering sunk costs. Consequently, a static approach that looks only at the new entrant's costs and today's price will almost never accurately predict whether firms will enter.⁹

⁷ Robert D. Willig, "Determining 'Impairment' Using the *Horizontal Merger Guidelines*' Entry Analysis," at 3, attached to letter from C. Frederick Beckner, III to Marlene H. Dortch (Nov. 14, 2002) ("*Willig ex parte*").

⁸ Traditional oligopoly models, for example the Cournot model, demonstrate that a firm with lower marginal costs will end up with a disproportionate share of the market as an outcome of the strategic interactions of the firms. The firm or firms with higher costs will produce less, market prices will be higher and total output will be lower than if all the firms had the marginal cost as the advantaged firm. See Stephen Martin, *Advanced Industrial Economics*, Blackwell Publishers, Oxford UK and Cambridge MA, 1993, at 19-21.

⁹ In fact, the Commission has once before considered a proposal similar to the one presented by SBC, and rejected it as impractical. In the *UNE Remand Order*, the Commission explicitly refused to consider a competitor's profitability as part of the impairment analysis. *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, Third Report and Order and Fourth Further Notice of Proposed Rulemaking, 15 FCC Rcd 3696, ¶¶ 73, 257 (1999). As the Commission explained, basing impairment on profitability would be impractical for a number of reasons, including the fact that revenues (and hence profit margins) could vary widely from quarter to quarter: "Whereas the actual costs of network elements such as switches are quantifiable, revenues may fluctuate according to evolving competitive conditions in the local telecommunications market." *Id.* ¶ 257. The Commission also explained that it would be inherently difficult to evaluate the specific assumptions underlying any figures purporting to show a specific profit margin for a specific market. *Id.* & n.502. This difficulty is perfectly illustrated by SBC's own attempt at margin analysis, which, as explained below, suffers from a number of incorrect assumptions.

SBC's proposal to measure impairment on the basis of estimated competitive LEC margins is seriously flawed as a matter of economics.¹⁰ Competitive LEC prices are not set in a vacuum, nor are they static. The competitive LECs must offer prices that meet or beat the incumbent LECs' prices for similar bundles of services, or they will be unable to attract customers. It is disingenuous at best for SBC to imply that it will not change prices in response to a substantial increase in its competitors' costs, *relative to its own costs*. This assumption is contrary to logic and economic theory, and is contradicted by any defensible model of economic behavior in markets where rivals bid for business from the same group of customers. If one firm gains a significant cost advantage over its competitors, the competitors' incentive to enter will be reduced, and should they enter, their output will be lower.

It is misleading to suggest that the incumbent LECs will not lower retail rates because these rates currently are regulated by state commissions. Most of the competitive LECs' customers are buying bundles of local service, vertical features, and long distance service, and the incumbent LECs do not need to lower the tariffed local rates to undercut the competitive LECs on the price of the bundle.

It is also misleading for SBC to suggest that the BOCs will not lower their retail rates in low cost areas because they must retain those rates to subsidize customers in high cost areas.¹¹ Retaining high retail rates will not help the BOCs maintain subsidies if they lose customers by doing so. As is true for any market participant, the BOCs will set prices to maximize profits. This may require the BOCs to reduce implicit subsidies in response to competition in high price areas. Of course, this was one of the goals of the 1996 Act.

Moreover, incumbent LECs have in fact lowered local retail prices in response to competitive entry. For example, when MCI began offering local service in Michigan at the end of 2000, it offered consumers unlimited local calling for \$14.99. This price was far lower than the \$43.95 the incumbent LEC (SBC Ameritech) was then charging for a similar product. In response to MCI's entry, Ameritech began slashing prices. Today, Ameritech offers customers in Michigan unlimited local calling for between \$12.31 and \$14.31 per month.¹² While this example demonstrates how consumers can benefit from competitive entry (MCI forced Ameritech to reduce its supracompetitive margins by

¹⁰ For the reasons discussed below, the Commission also should reject BellSouth's impairment analysis, which (like SBC's analysis) depends on the projected profitability of competitive LECs. See *BellSouth ex parte* at 11-12.

¹¹ See *SBC ex parte* at 2, 4, and Att. 1 at 2, 5.

¹² Cf. Credit Suisse First Boston, Company Update Report on Cox Communications, Inc., at 2 (Sept. 2002), attached to letter from Brian J. Benison, SBC, to Marlene H. Dortch, FCC (Nov. 14, 2002) (explaining that "SBC has lowered local rates either explicitly or implicitly through changes in packages in Illinois, Michigan, Ohio, and California in response to the entrance of AT&T and MCI.").

lowering its prices from nearly \$44 to less than \$15), it also demonstrates the irrationality of assuming that profit margins will remain static.

B. How Cost Differences Translate Into Impairment

WorldCom is not suggesting that the Commission find impairment wherever any cost difference exists.¹³ Rather, WorldCom has proposed that the Commission should find that a cost disadvantage is material only if it is: (1) more than minimally greater than those disadvantages faced by new entrants in all industries; and (2) not balanced by offsetting competitive advantages, such as superior back office systems.¹⁴ As WorldCom explained in its January 8 *ex parte*, the key cost and operational barriers facing new entrants (*e.g.*, hot cut costs and processes, collocation costs, transport costs) vary from state to state and even from central office to central office.¹⁵ State commissions are therefore in the best position to evaluate whether the relevant barriers have been removed (or at least sufficiently reduced), and whether other conditions exist, to make UNE-L a feasible alternative to UNE-P in a particular central office. The Commission should, however, provide guidance to the states to ensure a consistent application of the impairment analysis. WorldCom's November 18 *ex parte* described principles and standards that the Commission could adopt, and state commissions could apply, in determining circumstances in which a requesting carrier would not be impaired without non-discriminatory access to unbundled local switching.¹⁶

However, if the Commission instead prefers to establish a bright-line impairment standard for the states to apply, it could adopt a rule that a competitor will be considered to be impaired *per se* without access to unbundled switching wherever the cost disparity between the prices charged for the elements that make up the UNE-P bundle and the set of costs required to serve a customer via UNE-L (as described in the MiCRA model attached to WorldCom's January 8 *ex parte*) is greater than 5 percent. If this cost disparity is less than or equal to 5 percent, the FCC could establish a rebuttable

¹³ Dr. Shelanski claims on behalf of the BOCs that some scale economies and sunk costs exist in many industries. *See SBC ex parte*, Att. 2, letter from Howard Shelanski to Marlene Dortch ("Shelanski letter") at 1. It may be true that even typical industries deviate somewhat from perfect competition. But the relevant question for an impairment analysis is when the deviation is great enough to justify unbundling. As we show below, in the mass market, there is no doubt that the barriers faced by competitors attempting to use a UNE-L strategy in the mass market are great enough to justify unbundling.

¹⁴ WorldCom Reply Comments at 13-14 (July 17, 2002).

¹⁵ *WorldCom ex parte* at 7.

¹⁶ Letter from Donna Sorgi, WorldCom, to William F. Maher, FCC, attached to letter from Ruth Milkman to Marlene H. Dortch (Nov. 18, 2002).

presumption of non-impairment with respect to economic issues.¹⁷ This 5 percent threshold is consistent with economic theory, Department of Justice practice, and filings made by other parties based on similar and related theories and sources.

First, as explained in the attached Appendix, analyses of competitive LEC demand for UNE-P show that every 5 percent increase in the price of UNE-P leads to a more than 10 percent decrease in competitive LEC demand, and a corresponding reduction in competitive LEC output. Although different parties may dispute the precise level to which a cost disparity must rise in order to constitute impairment, it is beyond dispute that a 10 percent reduction in competitive LEC output must equate to a finding of impairment. Second, the 5 percent threshold is consistent with Department of Justice Merger Guidelines, and therefore is well supported by existing antitrust precedent.¹⁸ Under those Guidelines, a 5 percent increase in costs would lead to such a significant increase in market concentration that the Department of Justice would consider it anti-competitive. Third, this bright-line rule is also consistent with filings made by other parties in this proceeding.¹⁹

Admittedly, this 5 percent test is not the only possible approach for providing bright-line guidance to state commissions. As with any bright-line test, the 5 percent threshold fails to capture certain complexities (for instance, the econometric model cited above likely underestimates the competitive LEC's sensitivity to changes in UNE prices because it does not take account of the effect of sunk costs). However, if the Commission wants to establish a bright-line rule for determining impairment with respect to switching, the 5 percent test described above is a reasonable and fair approach that is consistent with the Act.²⁰

¹⁷ This presumption would, of course, not be effective unless the state commission had also concluded that the operational barriers, such as poor hot cut performance, had been overcome.

¹⁸ See attached Appendix.

¹⁹ See Laurence J. Kotlikoff, "Natural Monopoly and the Definition of 'Impairment'" at 8-9, attached to letter from Penelope K. Alberg, AT&T, to Marlene H. Dortch, FCC (Jan. 22, 2003) (noting that a 5 percent cost differential constitutes material economic impairment); see also *ex parte* presentation of Z-Tel Communications, Inc., "A Five-Step Plan for Building Wholesale Switching and Transport Alternatives" at 6-7, attached to letter from Christopher J. Wright to Marlene Dortch (Nov. 22, 2002).

²⁰ See *Verizon v. FCC*, 535 U.S. 467, 122 S.Ct. 1646, 1687 (2002) ("Whether the FCC [in adopting TELRIC methodology] picked the best way to set [UNE] rates is the stuff of debate for economists and regulators The job of judges is to ask whether the Commission made choices reasonably within the pale of statutory possibility[.]").

C. WorldCom's Impairment Analysis Is Consistent with All Relevant Legal Precedents and the Act

Contrary to SBC's claims, WorldCom's approach is consistent with existing precedent concerning impairment²¹ and with Congressional intent.²² Indeed, the D.C. Circuit clearly indicated that costs would have to be considered as part of any impairment analysis, stating that "any cognizable competitive 'impairment' [will] necessarily be traceable to some kind of disparity in cost."²³ Under existing precedent, therefore, the key objective is to determine *when* cost differences translate into impairment, not to adopt an approach unrelated to cost differences.²⁴ As WorldCom has shown, competitors seeking to enter the local telephone business via UNE-L face precisely the type of cost disadvantages that the courts have found to be most relevant to the impairment analysis. For example, new entrants in the local telecommunications sector must incur high fixed costs; *and* a very high proportion of those fixed costs are also sunk costs, which cannot be recovered if the new entrant is compelled to exit the market.²⁵ Moreover, while any industry that requires investment in fixed costs will exhibit some economies of scale, these economies of scale are much more pronounced in the local telecommunications industry than in most other industries, and are exacerbated by the length of time new entrants need to build the customer share necessary to compete effectively. In addition, new entrants face certain unique costs that are not incurred by the incumbents.²⁶

Thus, it is clear that contrary to SBC's assertions, the kind of cost disparities identified in the MiCRA analysis are relevant to the impairment analysis as a matter of law. These cost disparities are more than *de minimis*; they derive from economic and operational barriers that are not common to new entrants in other businesses; and they are not balanced by offsetting competitive advantages.²⁷ The incumbents' advantage, and the

²¹ See *AT&T Corp. v. Iowa Utils. Bd.*, 525 U.S. 366 (1999) ("*Iowa Utilities Board*"); *USTA*.

²² 47 U.S.C. § 251(d)(2).

²³ *USTA*, 290 F.3d at 426.

²⁴ See *Iowa Utilities Board*, 525 U.S. at 389-90 (holding that a *de minimis* cost disparity alone is not enough to lead to an automatic finding of impairment); *USTA*, 290 F.3d at 427 (cautioning that in conducting an impairment analysis, the FCC should not consider cost disparities between incumbents and new entrants that are common in any industry). Neither the Court of Appeals nor the Supreme Court ever stated – as SBC implies – that substantial cost disparities are irrelevant to the impairment analysis.

²⁵ The high proportion of sunk costs distinguishes the telecommunications industry from other businesses with high fixed costs. See WorldCom Reply Comments at 16-17.

²⁶ See *WorldCom Jan. 8 ex parte* at 4-5.

²⁷ Whatever competitive advantages (such as superior back office systems) WorldCom or other new entrants may enjoy in providing local service clearly are insufficient to offset the competitive disadvantages new entrants face when they rely on UNE-L to serve residential customers. See WorldCom Reply Comments at 18-19.

competitors' impairment, is a direct result of the high sunk costs competitors must incur, the diseconomies of scale they must overcome to provide local service via UNE-L, and the absolute cost disadvantages associated with being the "second mover" into the market. The cost disparities identified in the MiCRA analysis therefore clearly are relevant to determining whether competitors are impaired without unbundled access to switching.

D. Antitrust Law Supports a Focus on Cost-Related Barriers to Entry

Antitrust law adds further support to the conclusion drawn from basic economic theory and the *USTA* decision that cost-related barriers to entry are key to the impairment analysis. As Robert Bork explained in a recent *ex parte* letter, "from a basic antitrust viewpoint, the Commission's task in implementing the 'impairment' standard is to assess whether entry barriers exist for each particular network element that would prevent *multiple* firms from deploying alternative facilities."²⁸ Bork identified three categories of barriers that are relevant to the impairment analysis. Each is related to different types of costs: significant economies of scale or scope,²⁹ sunk costs (which are particularly potent when combined with the presence of scale or scope economies),³⁰ and various types of other barriers, including "significant 'absolute cost advantage[s]' over the entrant."³¹

Economies of Scale. It is hornbook law that "substantial scale economies have a high claim to recognition in any rational antitrust policy,"³² and courts continue to recognize economies of scale as an important entry barrier.³³ The economies of scale in the local telecommunications industry are severe enough that they will have significant anti-competitive effects far beyond the minor deviations from perfect competition that may exist in typical industries.³⁴

²⁸ Letter from Robert H. Bork to Chairman Michael Powell, FCC, at 2, attached to letter from C. Frederick Beckner, III to Marlene H. Dortch (Jan. 10, 2003) ("*Bork letter*").

²⁹ *Id.* at 2-3.

³⁰ *Id.* at 4-6.

³¹ *Id.* at 6 (quoting Jean Tirole, *The Theory of Industrial Organization* 306 (1990)).

³² IIA Phillip E. Areeda, *et al.*, *Antitrust Law* ¶ 408a, at 40 (2d ed. 2002) ("*Areeda & Hovenkamp*").

³³ *See, e.g., Western Parcel Express v. United Parcel Service of America*, 190 F.3d 974, 975 (9th Cir. 1999); *Image Technical Services v. Eastman Kodak Co.*, 125 F.3d 1195, 1208 (9th Cir. 1997).

³⁴ WorldCom's model shows that costs continue to decline up to the point the competitive LEC has 15 percent of the market. This places the mass market for telephone service well outside that of a typical industry. Indeed, there have been several studies showing that in very few industries does the minimum efficient plant size require 10 percent of market output. Areeda & Hovenkamp, ¶ 408c, at 41 (citing studies).

Sunk Costs. It is also generally recognized that high sunk costs constitute a legally cognizable barrier to entry.³⁵ Under the Department of Justice's Merger Guidelines, the sunk costs faced by a potential entrant are considered significant if they are so high that they could not be recovered within one year of the commencement of a supply response.³⁶ Based on this standard, it is clear that the sunk costs at issue here are significant enough to be considered an entry barrier under traditional antitrust analysis.³⁷ Even if competitive LECs assumed that the BOCs would maintain retail prices at their current level for the first year after they entered and the gap between retail prices and competitive LEC costs were as high as claimed by BellSouth and SBC, competitive LECs still would be unlikely to enter because they could not recover their sunk costs in that time period. The sunk costs faced by competitive LECs are therefore significant under the criteria of the Merger Guidelines.

Absolute Costs. In addition to the barriers posed by economies of scale and sunk costs, competitive LECs also today experience absolute cost disadvantages at any level of entry, in part because as the "second movers" they incur certain costs that incumbent LECs do not incur.³⁸ And the absolute cost disadvantages competitive LECs must endure are greater than those typically faced by new entrants in other industries.³⁹ As the Sixth Circuit explained in language that mirrors that of the Act, such absolute cost

³⁵ See *Bork letter* at 4-5; *Areeda & Hovenkamp* ¶ 421c, at 67-68; *In re B.F. Goodrich*, [1987-1993 Transfer Binder] Trade Reg. Rpt. (CCH) ¶ 22,519 at 22,145 n.85; 22,146 n.96 (FTC 1988) ("Both the [Federal Trade] Commission and the Department of Justice have recognized that entry efforts requiring the investment of substantial sunk costs are less likely to occur."); *American Professional Testing Service v. Harcourt Brace Jovanovich*, 108 F.3d 1147, 1154 (9th Cir. 1997) (listing sunk costs as entry barrier); *Avery Dennison Corp. v. Acco Brands, Inc.*, 2000-1 Trade Cases (CCH) ¶ 72,882, at 87,558 (C.D. Cal. 2000) (denying summary judgment on Sherman Act Section 2 claim in part because high sunk costs constituted barrier to entry).

³⁶ *Horizontal Merger Guidelines*, U.S. Department of Justice and the Federal Trade Commission, § 1.32 (issued Apr. 2, 1992; revised Apr. 8, 1997), available at: <http://www.usdoj.gov/atr/public/guidelines/horiz_book/hmg1.html> ("Merger Guidelines" or "Guidelines").

³⁷ *In re Owens-Illinois, Inc.*, [1987-1993 Transfer Binder] Trade Reg. Rpt. (CCH) ¶ 23,162 at 22,822 (FTC 1992) (entry barriers high where entry cost \$40 million to \$110 million, mostly for a specialized plant that would have only minor salvage value if entry proved unprofitable); *United States Steel Corp. v. FTC*, 426 F.2d 592, 604-05 (6th Cir. 1970) (\$64 million capital costs is "formidable" barrier; \$3-5 million is significant in already concentrated industry); *FTC v. Swedish Match*, 131 F. Supp. 2d 151 (D.D.C. 2000) (finding significant barriers to entry in part because of substantial sunk costs of at least \$20-25 million).

³⁸ See *WorldCom Jan. 8 ex parte* at 4.

³⁹ See Joe S. Bain, *Barriers to New Competition* 152 (5th prtng. 1971) (classifying 16 out of 20 industries as having "no more than slight absolute cost barriers to entry.").

disadvantages in a concentrated industry “substantially impair[]” the ability of competitors to enter the market.⁴⁰

Thus, antitrust law provides further support for the conclusion that cost-related barriers to entry are relevant to the impairment analysis.

II. SBC’s *Ex Parte* Fails to Refute Key Conclusions of the MiCRA Model

A. SBC Does Not Dispute Many of WorldCom’s Key Claims

Despite its criticisms of WorldCom’s January 8 *ex parte*, SBC does not dispute many of WorldCom’s central claims. For instance, although SBC challenges certain aspects of the MiCRA model, it never disputes the conclusion that competitive LEC costs are significantly higher than incumbent LEC costs. Indeed, SBC’s own approach reveals a cost disparity of \$6.86 per line in the incumbent LECs’ favor.⁴¹

Moreover, SBC does not dispute the following additional points made in WorldCom’s January 8 *ex parte*:

- SBC does not dispute that a substantial cost disparity that is not universal to all new entrants in any industry may be a factor in the impairment analysis. Instead, SBC claims only that the courts have rejected the theory that “any cost advantage enjoyed by an ILEC constitutes impairment[.]”⁴² As WorldCom has shown, however, the cost disadvantages suffered by competitive LECs do constitute impairment under both the *USTA* and *Iowa Utilities Board* decisions.⁴³

⁴⁰ *United States Steel Corp. v. FTC*, 426 F.2d at 604 (discussing merger that gave vertically integrated firm cost advantage over new entrants in already concentrated industry). *See also Bork letter* at 6 (evidence that competitive LECs must incur substantial costs that incumbent LECs do not have to bear “demonstrates that competitive carriers are in fact impaired under ‘classic’ antitrust economic principles”); *In re B.F. Goodrich*, ¶ 22,519 at 22,142 (“a long-run cost differential could create a permanent barrier to new entry that would permit incumbent firms to secure supracompetitive prices and profits indefinitely.”) (quotation marks and citation omitted).

⁴¹ To develop an estimate of the cost difference between providing UNE-L and UNE-P as presented in the *SBC ex parte*, WorldCom added the collocation, GR-303, switch and transport costs reported by SBC for Michigan, California and Texas. The results were then averaged and the \$6.44 UNE-P cost (UNE-P total minus the loop cost) was subtracted from that average. *SBC ex parte*, Att. 3 at 4-7.

⁴² *SBC ex parte*, Att. 1 at 5.

⁴³ Dr. Shelanski’s careful use of qualifiers indicates that he is aware that cost disparities can constitute impairment. *See SBC ex parte*, Att. 2, Shelanski letter at 1-2 (stating that “[c]ost differences do not in themselves necessarily constitute impairment,” and that “the

- SBC does not challenge WorldCom’s assertion that “the nature and magnitude of the barriers new entrants face vary from state to state and from central office to central office[.]”⁴⁴ In fact, SBC’s own analysis reports significant state-by-state variation in competitive LEC costs.⁴⁵
- SBC does not dispute that incumbent LECs enjoy extraordinary economies of scale. As WorldCom has explained, these economies of scale create significant advantages for the incumbent LECs.⁴⁶
- SBC does not dispute WorldCom’s assertion that competitive LECs incur substantial sunk costs, such as the costs of hot cuts and collocation.⁴⁷

B. SBC’s Criticisms of the MiCRA Model Are Meritless

While SBC does not dispute the fundamental conclusions of MiCRA’s analysis, it does criticize particular aspects of that analysis. As shown below, however, those criticisms are meritless.

1. WorldCom’s Use of UNE-P Rates Is Reasonable and Conservative

SBC argues that MiCRA’s use of UNE-P rates is unreasonable, and significantly understates incumbents’ actual costs. As WorldCom explained in its January 8 *ex parte*, however, MiCRA’s reliance on UNE-P rates was conservative in a number of ways and, if anything, understated the cost difference between incumbent and competitive LECs.⁴⁸

Moreover, to the extent that UNE-P rates understate incumbent LEC costs because they are based on faulty assumptions, any upward revision of incumbents’ costs will be matched by a corresponding increase in WorldCom’s costs as determined by the

existence of scale advantages for the incumbent does not *necessarily* create meaningful impairment for new competitors.”) (emphases added).

⁴⁴ *WorldCom Jan. 8 ex parte* at 2. See also *id.* at 7.

⁴⁵ *SBC ex parte*, Table A (projecting significant differences in competitive LEC margins in different states even though projected revenues remain constant between the states).

⁴⁶ *WorldCom Jan. 8 ex parte* at 3-4.

⁴⁷ Dr. Shelanski mistakenly asserts that WorldCom “appears to believe that any sunk cost for a new entrant constitutes impairment.” *SBC ex parte*, Att. 2, Shelanski letter at 2. WorldCom never stated that *any* sunk cost automatically constitutes impairment. Rather, WorldCom explained that the combination of high fixed costs and sunk costs created a barrier to entry that is especially formidable, and that therefore should be considered as part of the impairment analysis. *WorldCom Jan. 8 ex parte* at 4. See also *Bork letter* at 4-5.

⁴⁸ *WorldCom Jan. 8 ex parte*, Att. B.

MiCRA model. For example, if UNE-P rates are set too low because of faulty assumptions regarding the depreciation schedule for switching, correcting that assumption would lead to an increase in both incumbent LEC and competitive LEC costs. This is due to the fact that the MiCRA model uses the same depreciation lives for WorldCom switches that state commissions use for incumbent LEC switches. Therefore, if incumbent LEC depreciation rates should be accelerated, then the corresponding estimates for WorldCom also must be adjusted to reflect this change. Thus, the gap between the two will remain more or less constant, as WorldCom's costs and the incumbent LEC's costs will move up and down in tandem as the assumptions are adjusted.

2. MiCRA's Analysis Is Based on Reasonable Inputs

SBC argues that MiCRA's analysis overstates WorldCom's costs with respect to four key inputs: OSS, collocation, transport, and digitization.⁴⁹ WorldCom addresses each of these points below. It is worth noting at the outset, however, that, as a general matter, WorldCom has understated costs relative to SBC's calculation of those costs in prior proceedings.⁵⁰

OSS. SBC asserts that WorldCom "already [has] deployed the OSS systems necessary to purchase unbundled loops, and they are using those systems today[.]"⁵¹ This assertion is simply wrong. WorldCom's OSS for business customers is not entirely automated today, and therefore the OSS for UNE-L would have to be upgraded in order to accommodate large volumes of residential and mass market customers, at an estimated cost of \$30 million. Moreover, the total amount MiCRA allocated to OSS costs is only \$30 million. Even if this entire amount were eliminated from MiCRA's calculations, it would lower the UNE-L costs predicted by the model by about 10 cents a month per line for a competitive carrier with a 7 percent share. Thus, even if SBC's criticism had merit, the result would be immaterial.

Collocation. SBC accuses WorldCom of having "grossly inflated" its collocation costs, in large part because "a CLEC could virtually collocate the necessary concentration equipment" rather than paying for physical collocation.⁵² BellSouth similarly argues that WorldCom has overstated collocation costs, although BellSouth does not dispute that WorldCom must use physical collocation.⁵³ As explained below, at least with respect to

⁴⁹ BellSouth also argues that MiCRA's analysis overstates collocation costs, but does not dispute the remaining calculations.

⁵⁰ For example, WorldCom has calculated competitive LEC switching costs based on the HAI model, which SBC persistently has argued understates switching costs. And WorldCom has used lower DLC input costs than SBC has previously advocated.

⁵¹ *SBC ex parte*, Att. 1 at 6.

⁵² *SBC ex parte*, Att. 1 at 7.

⁵³ *BellSouth ex parte* at 20-22.

WorldCom, it is appropriate to assume physical collocation, and the collocation costs used in the model are reasonable. MiCRA used physical collocation in its model because those are the types of arrangements that WorldCom has in place today. WorldCom avoids virtual collocation where possible because such an arrangement requires that WorldCom have an escort to access its equipment, and the incumbent LECs charge escort fees each time WorldCom needs to access its equipment. Moreover, equipment that is virtually collocated is not accessible 24 hours a day, 7 days a week. In order to manage its network and provide the level of support residential customers expect with local service, WorldCom needs to have continual access to all facilities. In addition, if WorldCom expands its existing collocation arrangements, it will add physical collocation space, rather than having physical collocation and virtual collocation in a single office.

More generally, it clear that MiCRA's estimate of \$120,000 for WorldCom's collocation costs is reasonable, and not inflated as SBC and BellSouth claim. The \$120,000 figure includes \$60,000 in external costs (reflecting incumbent LEC physical collocation charges, which is the weighted average of all BOC physical collocation rates),⁵⁴ and \$60,000 in internal costs that WorldCom incurs to prepare the cage for use. These internal costs include:

- Drilling holes in the cage floor for mounting bolts;
- Mounting the frames that will hold the racks of equipment;
- Installing racks to hold the equipment;
- Terminating the lines provided by the incumbent LEC to WorldCom's equipment;
- Terminating the power provided by the incumbent LEC to WorldCom's equipment;
- Testing to ensure collocation is ready; and
- Installing certain equipment (where applicable).

Moreover, even using the collocation estimates provided by BellSouth would not change WorldCom's conclusion that competitive LECs would suffer a significant cost disadvantage in providing service via UNE-L. According to BellSouth, competitive LECs would suffer a disadvantage of \$4.64 per line in central offices with more than 25,000 lines with a 5 percent share.⁵⁵ The disadvantage would be substantially greater in smaller central offices.

Transport. SBC alleges that MiCRA's estimated transport costs are inflated. As proof, SBC points to its tariffed special access rate in Texas, which, according to SBC, is

⁵⁴ SBC's physical collocation rates vary by state but fall between \$40,000 and \$77,000.

⁵⁵ *BellSouth ex parte* at 21 (adding SDO, transport, NRCs and "corrected" collocation and subtracting UNE-P costs of \$6.44 yields cost disadvantage of \$4.64).

\$35 for all three zones.⁵⁶ What SBC fails to explain is that this tariffed rate does not apply on a statewide basis in Texas; rather, the \$35 rate applies only in those MSAs where SBC has not been granted pricing flexibility. The equivalent rates for offices in which SBC has pricing flexibility (which cover about 70 percent of residential lines in Texas) is \$37.50 in zones 1 and 2, and \$43.50 in zone 3.⁵⁷ Thus, SBC's \$35 figure understates its average special access rate for all areas in Texas.

Digitization. SBC claims that MiCRA improperly estimated WorldCom's cost of digitizing equipment because WorldCom could use equipment that could be purchased in smaller units.⁵⁸ This claim also founders on the facts. MiCRA estimated WorldCom's costs for the equipment WorldCom actually uses. In addition, SBC's objection is only significant in central offices where WorldCom's digitizing equipment is used for fewer than 200 customers. But WorldCom is unlikely to use UNE-L in central offices where it has so few customers. In offices with more than 200 customers, WorldCom's equipment proves to be much more cost efficient than the equipment cited by SBC.⁵⁹ Thus, the theoretical cost differences that might arise from WorldCom's use of different equipment are likely to prove irrelevant in fact.

Moreover, WorldCom has assumed very low DLC costs in relation to those SBC itself has previously calculated. WorldCom assumed a cost per line for DLC of \$72, and the cost would be even lower if the DLC were fully utilized. In the Synthesis Model cost case, SBC supported the FCC's calculation of the cost of a 500 line DLC system to be \$225 per line. In a November 14 *ex parte* in this docket, SBC provided cost figures lower than it previously advocated – but still higher than the cost WorldCom used in the MiCRA model.⁶⁰ SBC claimed that the cost of a 100 line DLC system was \$150 per line, which implies that the cost of a 500 line DLC system is \$100 per line, assuming that the costs for DLC change between 100 and 500 lines at the same rate as overall circuit costs. Thus, WorldCom's calculation of DLC costs as \$72 per line is very conservative relative to SBC's own prior advocacy.

⁵⁶ *SBC ex parte*, Att. 1 at 8, n.22.

⁵⁷ In an earlier *ex parte*, WorldCom cited a rate of \$40 for zones 1 and 2, and \$46 for zone 3. These figures were based on the three-year High Capacity Term Pricing Plan rather than the five-year High Capacity Term Pricing Plan. See letter from Henry G. Hultquist, WorldCom, to Marlene H. Dortch, FCC, Att. at 3 (citing transport rates for SWBT-TX) (Oct. 29, 2002), attached to *erratum* from Ruth Milkman (Oct. 30, 2002).

⁵⁸ *SBC ex parte*, Att. 1 at 8-9.

⁵⁹ Using SBC's estimate that it would cost \$20,000 to serve 96 lines with GR-303 equipment, it appears that it would cost WorldCom well over \$100,000 to serve the 576 lines it can serve for only \$36,000 using its current equipment. *SBC ex parte*, Att. 1 at 9.

⁶⁰ See *ex parte* presentation, "UNE-Loop/Special Access Network Impact Overview," at 8 (Nov. 13, 2002), attached to letter from Jay Bennett, SBC, to Marlene H. Dortch, FCC (Nov. 14, 2002).

C. The Costs of Serving Business Customers Are Different from the Costs of Serving Residential Customers

SBC erroneously argues that it is possible to infer that competitive LECs will be able to utilize their own switching to provide analog residential services because they are serving “millions of business customers using their own switches” today.⁶¹ But the fact that competitive LECs are serving millions of business customers with their own switching, yet provide almost no such service to mass market customers, only underscores the impairment faced by competitive LECs for the mass market.

Moreover, SBC’s argument ignores the fact that digital business services and analog residential services are quite different. The types of circuits provisioned and the equipment used to serve business customers are quite different than those used to serve analog residential and small business customers. Over 90 percent of the circuits served by WorldCom’s local switches are DS1 circuits. To provision these digital circuits, WorldCom does not need to invest in analog-to-digital conversion equipment (DLC equipment), nor does WorldCom need to pay for collocation space to house large racks of this type of equipment. Also, the business customers WorldCom serves sign up for industry-standard two-year contracts with renewal options. As a result, WorldCom experiences significantly less churn with its business customers than with its residential customers. This longer customer lifecycle enables WorldCom to amortize its hot cut costs over a longer period of time.

D. Potential Revenues for DSL Services Are Irrelevant

FCC staff has asked how the MiCRA model would be affected by inclusion of DSL services. Of course, not all competitors may choose to offer DSL, and the Commission has held that it will not require competitive LECs to enter a new line of business to offset impairment.⁶² In any event, inclusion of DSL would result in higher costs as well as additional revenues, so it would not greatly affect the cost differential that exists between competitive LECs and the incumbent LEC.

III. SBC’s Analysis Is Based on Erroneous Assumptions

Even if SBC’s proposed focus on current retail prices as a basis of assessing impairment had any merit, SBC’s flawed analysis still would render its conclusions useless. Specifically, SBC greatly underestimates the cost of the long distance service included in the bundled packages it assumes the competitive LEC is selling. SBC

⁶¹ *SBC ex parte*, Att. 1 at 2.

⁶² *Deployment of Wireline Services Offering Advanced Telecommunications Capability and Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, Third Report and Order in CC Docket No. 98-147 and Fourth Report and Order in CC Docket No. 96-98, 14 FCC Rcd 20912, ¶¶ 51-52 (1999) (refusing to require competitive LECs that chose to offer DSL service to provide voice service).

assumes \$5.00 of total long distance cost. At a long distance network cost of 2 cents per minute, and a terminating access rate of 0.78 cents a minute, this would imply about 180 minutes of use.⁶³ This is substantially less than half of the number of minutes WorldCom has experienced with its Neighborhood offering. Using WorldCom's actual number of long distance minutes would imply an additional \$6 to \$7 of cost.⁶⁴ This change alone would eliminate the profit margin predicted by SBC in California and Texas (assuming a \$50 retail rate and a 5% market share), and would substantially reduce the profit margin predicted elsewhere.⁶⁵ For example, adjusting SBC's calculations to account for this one change would result in a negative competitive LEC margin of between \$.31 to \$1.31 per line in California and a negative margin of between \$1.25 to \$2.25 per line in Texas.⁶⁶

In any event, even using SBC's impairment standard and SBC's own calculations, SBC acknowledges that competitive LECs are impaired in offices below 5,000 lines, which account for about 10% of BOC lines. However, SBC claims that any losses that competitive LECs will incur serving customers in these central offices will be offset by profits made from serving customers in the larger central offices. Thus, SBC argues that the Commission should find that there is no impairment even in those offices where the competitive LEC earns a negative margin. This argument defies logic. The Act does not say, and does not permit, impairment as to customers in one location to be "offset"

⁶³ The market wholesale rate for long distance is 2 cents a minute. Terminating access costs 0.78 cents per minute according to data from the latest FCC report on trends in telephone service. *Trends in Telephone Service*, Table 1.2 (May 2002), available at: <http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/trend502.pdf>. Since the competitive LEC will be self-providing originating access over its UNE-L and switch, there is no originating access charge.

⁶⁴ The Neighborhood product has three options, only one of which offers unlimited interstate usage to all customers. This estimate of long distance usage is based on the average usage among all three types of Neighborhood customers.

⁶⁵ SBC's cost assumptions are also not credible. While WorldCom's cost model calculates costs based on the same methodology it has always said is appropriate, SBC provides assessments of DLC costs and switching costs that are significantly less than it has previously advocated. In its model, SBC assumes a DLC cost of \$50.38 per line for a 500 line DLC and \$84.98 per line for a 250 line DLC. As noted above, SBC argued in the Synthesis Model cost case that the cost of a 500 line DLC equipment is \$225 per line (and the FCC accepted this), and SBC argued previously in this docket that the cost of a 100 line DLC is \$150 per line, implying that the cost of a 150 line DLC is approximately \$100 per line. SBC therefore calculates far lower costs for DLC in its model than it would calculate using the DLC figures it previously advocated. Similarly, with respect to switching, SBC now says that switching costs \$134/line for a switch serving 16,128 lines, \$96.57/line for a switch serving 32,256 lines, and \$77.88/line for a switch serving 64,512 lines. In contrast, in the Synthesis Model cost case, SBC claimed the cost of switching varied from \$192 to \$400 per line.

⁶⁶ See SBC *ex parte*, Table A.

against non-impairment as to customers in another location. Nor does this argument make any sense. Clearly, competitors will simply avoid serving those central offices that are unprofitable, thereby limiting the number of competitive choices available to consumers. Indeed, SBC has failed to show that the positive margin achieved by competitive LECs in some central offices would exceed the losses they would suffer from serving areas where the revenue would not exceed their costs.⁶⁷ If a competitive LEC is impaired without access to an unbundled element in serving a customer, the Act requires that the element be unbundled.

IV. Operational Issues

A. Hot Cuts

In addition to the impairment competitive LECs face in serving mass market customers via UNE-L, as a result of their cost disadvantage, competitive LECs are impaired because of the operational issues in cutting loops over to competitive LECs in sufficient volume to serve the mass market. SBC claims that it has presented evidence in this docket that it can provision thousands of loops per month and hundreds of thousands of loops per year.⁶⁸ First, SBC has presented only anecdotal evidence that it can provision loops. Its proof is not backed up with any demonstrable evidence that it can indeed process large volumes of loops in a timely, efficient manner. While it is true that SBC's loop provisioning processes have been reviewed during 271 proceedings, they have never been tested to determine whether SBC is capable of handling hundreds of thousands of loops per month. Second, the fact that SBC provisioned 500,000 hot cuts in a year for its entire region proves nothing. As the chart below demonstrates, a sampling of three key SBC states reveals that the volumes of UNE-P orders dwarf the amount of hot cuts SBC is processing on a monthly basis in these same states. Indeed, SBC would have to increase its hot cut performance by about 10,000% to handle current UNE-P volumes.

UNE-P Volumes vs. Hot Cut Volumes:

CALIFORNIA	October	November	December
UNE-P	188,198	170,602	190,692
Hot Cuts	2,020	1,229	1,228

⁶⁷ It is also worth noting that at the same time SBC is arguing to the Commission that competitive LECs should be able to earn a profit by targeting high-revenue customers, it is simultaneously waging an ad campaign aimed at preventing competitive LECs from executing such a strategy.

⁶⁸ *SBC ex parte*, Att. 1 at 10.

MICHIGAN	October	November	December
UNE-P	129,020	125,727	137,177
Hot Cuts	1,853	1,313	1,388

TEXAS	October	November	December
UNE-P	217,861	211,877	219,881
Hot Cuts	2,831	1,680	1,293

Source: SBC state reported CLEC aggregate data

B. Collocation Intervals

SBC points out that the collocation interval in SBC's territory is shorter than the 14-month interval cited in WorldCom's January 8 *ex parte*.⁶⁹ In fact, WorldCom's January 8 *ex parte* cited to a prior WorldCom *ex parte* describing the time it would take to collocate and construct fiber facilities in Verizon territory. In SBC territory, it would take WorldCom approximately 4 months to obtain collocation space and install equipment, if it did not construct fiber. Verizon's collocation interval is 90 days longer than SBC's interval.⁷⁰

V. Conclusion

The conclusions described in WorldCom's January 8th letter remain valid. Specifically, (1) competing carriers seeking to provide residential service today are impaired without non-discriminatory access to local switching on a national basis; and (2) if certain operational and economic barriers are addressed, UNE-L may prove to be a feasible alternative to UNE-P in some central offices with relatively large numbers of residential lines.

Respectfully submitted,

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Attachment

⁶⁹ See *SBC ex parte*, Att. 1 at 11-12; *WorldCom Jan. 8 ex parte* at 6.

⁷⁰ See *SBC ex parte* at 12.

Appendix

Multiple regression analysis can provide estimates of the likely impact of an increase in the competitive LECs' costs on their level of output. A number of studies have been conducted that measure this relationship by looking at how competitive LEC output responded to changes in the prices of the UNE-P elements purchased from the incumbent LECs. (An increase in the price of the UNE elements raises the marginal cost of the competitive LECs.)

In every study, the estimated elasticity of output with respect to a cost change was greater than one (in absolute value). Elasticity above one implies that competitive LEC output is highly sensitive to a change in the incremental cost of doing business – a 5% increase in cost leads to more than a 5% reduction in output. A published paper by Robert Ekelund and George Ford (*Atlantic Economic Journal*: Vol. 30, December 2002) indicates that the output-cost elasticity is -2.7, indicating that a 10% increase in the cost (price) of the UNE-Platform produces, on average, a 27% decline in the quantity of lines served by competitive LECs using the UNE-Platform. (The confidence interval of the estimated elasticity was reported to be -1.6 to -3.8).

Subsequent analysis by Audrey Kline (*Atlantic Economic Journal*: forthcoming Vol. 31, March 2003), using different data than that employed by Ekelund and Ford, confirms the elastic relationship between element costs and competitive LEC output. This latter study estimates a point elasticity of -1.83, but the confidence interval includes the -2.7 estimated by the Ekelund and Ford.

Based on these econometric studies, it is reasonable to conclude that for every 1% change in UNE-P rates, competitive LEC market share will decline by approximately 2%. We can use these studies to estimate the effect of eliminating UNE-P and forcing competitive LECs to rely on UNE-L. If UNE-L costs competitive LECs 5% more than UNE-P, elimination of UNE-P will result in approximately a 10% decrease in competitive LEC output based only on the price effect. But there is every reason to believe that this substantially underestimates the impact of forcing the competitive LECs to use UNE-L instead of UNE-P. In moving from UNE-P to UNE-L competitive LECs not only incur higher costs, but a far higher proportion of these costs are sunk. Thus, competitive LECs must not only evaluate their market strategy in light of the higher costs but also based on the chance that they will not recover the sunk costs.

Thus, it is reasonable to conclude that a 5% cost differential between UNE-P and UNE-L will have at least a 10% effect on competitive LEC market share. This constitutes impairment under any analysis and could form the basis for a bright line rule that 5% cost differences amount to impairment.

A second approach for determining when cost differences amount to impairment is to apply the standards set forth in the Department of Justice's Horizontal Merger Guidelines. Other commenters have suggested the appropriateness of such an analogy as

a basis for evaluating impairment,¹ and WorldCom agrees. The Guidelines enable DOJ to determine when a merger will result in significant competitive harm. That is very similar to the FCC's task in assessing impairment.

Application of the standards set forth in the Merger Guidelines demonstrates that competitive LECs will be impaired when there is a 5% cost difference, and often will be impaired with a far lesser difference. That is because increasing competitive LEC costs by 5% will significantly increase incumbent LEC market concentration in markets that are already highly concentrated.

In order to evaluate whether to approve a merger, DOJ uses the Herfindahl Hirschman Index ("HHI") to determine the extent to which the market is concentrated both before and after the merger. Applying this approach, one can calculate concentration levels with and without UNE-P. In a market in which the incumbent LEC has a 75% market share and the competitive LECs have a 25% market share, which approximates the highest share they have been able to achieve to date in the residential market in any state, the HHI is 6,250.² Anything above 1,800 is considered highly concentrated under the Merger Guidelines.

If UNE-P were eliminated, market concentration would increase significantly. The competitive LECs' final market share can be approximated using an output elasticity of -2.0, which is consistent with the econometric studies discussed above. Based on the extremely conservative assumption that use of UNE-L would not increase the competitive LEC's sunk costs of entry, the increase in its marginal costs by 5% would cause the competitive LEC market share to decline by 10% from 25% to 22.5% and incumbent LEC market share to increase from 75% to 77.5%.³ This change would increase the HHI from 6,250 to 6,512, an increase of 262 points.⁴

¹ See Covad Reply Comments, Murray Decl. (July 17, 2002); *Willig ex parte*.

² For simplicity's sake, WorldCom has treated the market share of competitive LECs collectively as if it were the share of a single competitive LEC. If the market share of each competitive LEC were treated separately, the initial HHI index would be somewhat lower (though still far above 1,800), but the change in the HHI index with elimination of UNE-P would be greater, as in shown in the attached tables. In such a market, the change from UNE-P to UNE-L would have more anti-competitive effects under the Merger Guidelines than in a market in which all of the competitive LECs' market share was held by a single competitive LEC.

³ In reality, the Merger Guidelines specify that prospective entrants only be included in calculation of post-merger concentration ratios if they are likely to enter the market within one year of the merger "without the expenditure of significant sunk costs of entry and exit." Guidelines § 1.32. There are few, if any, such competitive LECs, as competitive LECs would incur significant sunk costs to provide service using UNE-L. Thus, the proper calculation of concentration ratio post-UNE-P would use a near 100% incumbent LEC market share and a near 0% competitive LEC share.

⁴ The calculations are shown in the attached tables for this market and several other hypothetical markets.

Under the Merger Guidelines, in highly concentrated markets, any increase in the HHI of 100 points or more is considered likely to have anti-competitive effects.⁵ Thus, elimination of UNE-P would likely have severe anticompetitive effects in such a market. Indeed, so long as the cost difference between UNE-L and UNE-P were 2% or greater, elimination of UNE-P would increase the HHI by the 100 points that DOJ considers likely to be anti-competitive. The Merger Guidelines therefore provide strong support for adoption of an impairment standard under which impairment would always exist where cost differences between UNE-P and UNE-L were 5% or more.

⁵ Guidelines § 1.51. Under the Guidelines, calculations based on the HHI only create a presumption of anti-competitive effects. DOJ then takes into account whether there would be enough competitors that would enter despite significant sunk costs to return the market to pre-merger levels. Guidelines § 3.3. But WorldCom already included all such entrants in its calculation of the HHI. In fact, by assuming zero sunk costs, WorldCom included many competitors that would never enter. The analysis in the text therefore vastly understates the effect of eliminating UNE-P under the Merger Guidelines.

HHI ANALYSES

25 % CLEC Concentration with 10% Change

Cost Disadvantage 5%
Elasticity 2
CLEC output change 10%

	Share	Share change	New share		Share	Share change	New share
ILEC	75	2.5	77.5	ILEC	75	2.5	77.5
CLEC 1	10	-1	9	CLEC 1	25	-2.5	22.5
CLEC 2	10	-1	9	CLEC 2	0	0	0
CLEC 3	5	-0.5	4.5	CLEC 3	0	0	0
Total		0	100	Total		0	100
HHI	5850		6188.5	HHI	6250		6512.5
Change in HHI			338.5	Change in HHI			262.5

25% CLEC Concentration with 4% Change

Cost Disadvantage 2%
Elasticity 2
CLEC output change 4%

	Share	Share change	New share		Share	Share change	New share
ILEC	75	1	76	ILEC	75	1	76
CLEC 1	10	-0.4	9.6	CLEC 1	25	-1	24
CLEC 2	10	-0.4	9.6	CLEC 2	0	0	0
CLEC 3	5	-0.2	4.8	CLEC 3	0	0	0
Total		0	100	Total		0	100
HHI	5850		5983.36	HHI	6250		6352
Change in HHI			133.36	Change in HHI			102

10% CLEC Concentration with 10% Change

Cost Disadvantage 5%
Elasticity 2
CLEC output change 10%

	Share	Share change	New share		Share	Share change	New share
ILEC	90	1	91	ILEC	90	1	91
CLEC 1	4	-0.4	3.6	CLEC 1	10	-1	9
CLEC 2	3	-0.3	2.7	CLEC 2	0	0	0
CLEC 3	3	-0.3	2.7	CLEC 3	0	0	0
Total		0	100	Total		0	100
HHI	8134		8308.54	HHI	8200		8362
Change in HHI			174.54	Change in HHI			162