

**Reply Declaration of Joseph Farrell**

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

In the Matter of	)	
	)	
Special Access Rates for Price Cap Local Exchange Carriers	)	WC Docket No. 05-25
	)	
AT&T Corp. Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services	)	RM No. 10593
	)	

**Reply Declaration of  
Joseph Farrell  
On Behalf of CompTel**

**I. Qualifications**

1. I am Professor of Economics, Affiliate Professor of Business, and Chair of the Competition Policy Center at the University of California at Berkeley. Among other non-university professional activities, I was Chief Economist at the FCC in 1996-1997, President of the Industrial Organization Society in 1996, Editor of the *Journal of Industrial Economics* in 1995-2000, Deputy Assistant Attorney General and chief economist at the Antitrust Division of the US Department of Justice in 2000-2001, and member of the National Academies of Science Computer Science and Telecommunications Board in 2001-2004. I am a Fellow of the Econometric Society and a member of the Editorial Board of the journal *Information Economics and Policy*.

**II. Overview**

2. I begin by explaining why incumbent termination charges and certain kinds of optional volume or loyalty discounts are likely to exacerbate problems arising from well-known barriers to entry, especially when the inducement for customers to subscribe to these optional plans includes raising the price of the alternative,

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e.g., setting excessive basic rates for month-to-month service. I then discuss the use of price and cost information for assessing competition in this market, and comment in particular on the Declaration of Dr William Taylor.

### **III. Effects of ILEC Contracts on Competition**

3. Economic and structural barriers to competitive entry into the special access market are well known and well documented. Ordover and Willig summarized several such barriers in a declaration submitted along with AT&T's petition that launched this proceeding.<sup>1</sup> Special access services are characterized by economies of scale and sunk costs, as well as substantial incumbent first-mover advantages such as rights-of-way and building access. As a result, competitive entry generally has been restricted to the highest capacity services provided in dense metropolitan areas. Any further impediments to entry, such as the ILEC contract provisions I describe below, exacerbate these inherent economic and operational barriers.
  
4. Among such incremental impediments to entry would be (a) excessive charges (typically payable by the customer) for terminating ILEC service, (b) commitments to purchase some minimum amount from the incumbent, with substantial penalties for non-compliance, and (c) any provisions such as volume or loyalty discounts under which a special access consumer pays the ILEC more for something else (such as service at another location) if it uses an entrant rather than ILEC special access in one location. For many customers on a discount plan, the basic month-to-month tariff may be the next-most preferred alternative. When the basic month-to-month plan specifies prices significantly above the competitive level, these discounted prices (and discounted prices in other plans) can also be above competitive levels. Moreover, when a monopoly offers proportional or relative discounts off its undiscounted prices in order to induce customers to agree to exclusionary provisions, it has an incentive to set the undiscounted price above even the monopoly level (because, rather than simply

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<sup>1</sup> In the Matter of AT&T Corp. Petition for Rulemaking To Reform Regulation Of Incumbent Local Exchange Carrier Rates For Interstate Special Access Services, RM No. 10593. Declaration of Janusz A. Ordover and Robert D. Willig in support of AT&T's Petition, at ¶¶38-45.

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detering demand, an increase above the monopoly level steers customers into the discount plans and also brings the discount prices closer to the monopoly level).<sup>2</sup> Thus, even if they have other efficiency rationales, such pricing schemes put an additional wedge into the incentive for the customer to contract with a competitive carrier whose long-run cost is below the ILEC's price.<sup>3</sup> They thus weaken entry as a constraint on an incumbent's overall price level, whether or not they fall into standard antitrust categories such as predatory pricing or tying.

5. ILECs have implemented such pricing schemes in their special access tariffs. SBC's "Managed Value Plan" ("MVP") Tariff is an example. The MVP is an umbrella plan. Customers purchasing a wide range of special access products can include several such purchases in the MVP, which provides discounts in addition to term and volume discounts contained in the underlying tariffs from which customers purchase the special access circuits that they include in the MVP. The MVP discounts increase each year (9% in the 1<sup>st</sup> year, 11% in the 2<sup>nd</sup>, 12% in the 3<sup>rd</sup>, 13% in the 4<sup>th</sup>, and 14% in the 5<sup>th</sup> year). Carriers must spend at least \$10 million annually on SBC special access services to be eligible.<sup>4</sup> The MVP establishes a "Minimum Annual Revenue Commitment" (MARC) that the carrier must maintain with SBC for the five-year term. The MARC is established when the carrier joins the MVP by taking a carrier's previous three months' billing for qualified services (defined as virtually all SBC transport services) multiplied by four.

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<sup>2</sup> The economics of price-setting once a subset of customers become entitled to a percentage discount off a list price are analyzed by Borenstein, Severin, 1996. "Settling for Coupons: Discount Contracts as Compensation and Punishment in Antitrust Lawsuits," *Journal of Law & Economics*, University of Chicago Press, vol. 39(2), pages 379-404. Professor Borenstein shows that such discounts do not lower prices overall but rather implement a transfer from non-discount customers to discount customers, with almost no effect on average price or on the seller's profit. Moreover, if entitlement to the discount is based on agreeing to exclusionary terms, such arrangements further harm consumers in the long run. In price flex areas, even basic tariffs are unregulated, and the rates in these tariffs can be, and have been, increased by the ILEC.

<sup>3</sup> The basic economics here were explored in the well-known article by Aghion, Philippe and Bolton, Patrick. "Contracts as a Barrier to Entry," *American Economic Review*, June 1987. 77(3), pp. 388-401. See also Joseph Farrell, "Deconstructing Chicago on Exclusive Dealing," *Antitrust Bulletin*, forthcoming, available at <http://repositories.cdlib.org/iber/cpc/CPC05-053/>. In particular, I explain there why discounts to customers in return for signing exclusive or exclusionary contracts may not make the customers better off.

<sup>4</sup> If the customer has a national footprint, it must meet the \$10 million minimum in each SBC region.

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6. Carriers receive the MVP discount on services purchased up to their MARC. The discount does not apply to services purchased in excess of the MARC unless the MARC is increased. The MARC can be increased (semi-annually, by a minimum of 5%), but cannot be decreased during the term of the MVP.
7. The MVP requires carriers to purchase at least 95% of their SBC transport services from SBC’s interstate tariff, restricting their purchases of UNEs to less than 5%. (Recent tariff contract filings include a higher requirement of 98%)<sup>5</sup>.
8. If a carrier fails to meet the MARC, it must either continue the contract and pay a shortfall penalty equal to the difference between its MARC and the actual amount spent, or terminate its contract and pay a termination penalty. For example, if the carrier terminates during year 3 of the plan, it pays 12.5% of the MARC for the remainder of year 3 and the remaining years of the agreement. The customer is also billed for any nonrecurring charges that were waived under the MVP agreement.
9. The termination penalty requires repayment of all MVP discounts received in the six months preceding the termination date plus a specified percentage of the MARC for the remainder of the term (10% if in year 1 or year 5, otherwise 12.5%). The table below lays out the termination penalties for a carrier with a MARC of \$20 million that terminates its agreement at the beginning of a year. The table assumes that a discount was earned in each of the previous 6 months.

Year in which termination occurs:	Current MVP Discount Rate	Discount Earned in Previous 6 Months	% of Remaining Commitment Due	Remaining Commitment Due	Total Penalty	Penalty (In Months)
1	9%	\$0	10.0%	\$10,000,000	\$10,000,000	6.0
2	11%	\$900,000	12.5%	\$10,000,000	\$10,900,000	6.5
3	12%	\$1,100,000	12.5%	\$7,500,000	\$8,600,000	5.2
4	13%	\$1,200,000	12.5%	\$5,000,000	\$6,200,000	3.7
5	14%	\$1,300,000	10.0%	\$2,000,000	\$3,300,000	2.0

10. The Remaining Commitment Due is calculated as the MARC over the remaining years of the contract times the penalty rate (labeled “% of Remaining

<sup>5</sup> See e.g. SWBT Tariff FCC No. 73, Section 41.31.

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Commitment Due”). The total penalty is the sum of the Remaining Commitment Due and any discount earned in the previous 6 months. In the first two years of the contract, the penalty amounts to more than 50% of the annual MARC. In the last year, it falls to about 15% of the annual MARC. In addition to this penalty, the customer may incur termination penalties specified in the underlying tariff for the services included in the MVP. In some cases, these penalties amount to 40% of the monthly recurring rate over the remaining term of the tariff.<sup>6</sup>

11. The MVP is structured in a way that can make it unprofitable for a competitor to win any modest portion of a customer’s business, even if the incumbent’s price exceeds the competitor’s long-run cost. Essentially, it sets up an automatic and sometimes drastic price cut for any portion of the customer’s business that the customer is considering switching to a competitor. For example, consider a customer that spends \$20 million on special access services supplied by SBC. The customer can either 1) sign the MVP contract and purchase \$20 million in special access services from SBC or 2) purchase 20% of its services from a CLEC and 80% from SBC. In scenario 1), the carrier receives an average 11.8% discount (ignoring discounting) from SBC over the length of the contract;<sup>7</sup> thus its total expenditure is \$17.64 million per year. In scenario 2), the carrier would not be able to enter into an MVP agreement because the MARC is based on 100% of historical revenues. Thus, for the 80% of its special access requirements that it purchased from SBC, the customer would spend \$16 million. The carrier would save money in this scenario only if the competitive carrier charged less than \$1.64 million for the remaining 20% of the customer’s demand, a discount of 59% off SBC’s \$4 million price before MVP discounts.
12. Once an MVP agreement is signed, the marginal price of special access services for special access spending up to the MARC is zero, because a customer that misses the MARC is required to make up the shortfall by paying a penalty. The marginal price if the total spending is above the MARC is SBC’s rate before the

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<sup>6</sup> Southwestern Bell Telephone Company, Tariff F.C.C. No. 73, 2<sup>nd</sup> Revised Page 7-68.3.5.

<sup>7</sup> The 11.8% average discount is the arithmetic mean of the discounts of 9%, 11%, 12%, 13% and 14% offered in each of the five years of SBC’s MVP.

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MVP discount is deducted (unless the MARC is increased). Because the MARC cannot be decreased, a customer whose demand does not grow cannot switch to a competitive carrier for part or all of its special access spending without incurring significant penalties.

13. A customer with increasing expenditures on special access may find it economical to use a competitor to serve its new demand. Consider the example of a customer that entered into an MVP agreement with a MARC of \$20 million. Suppose that the customer established business in a new area, requiring special access services worth \$10 million in that area. The carrier could either include this new demand for special access service in its MARC, increasing the MARC by \$10 million, and then receive the 11.8% average discount on this new commitment; or else it could go to a competitor that would only need to offer the 11.8% discount off SBC's pre-MVP prices to match the discount offered by the MVP plan.
14. However, if this \$10 million in new growth in the network occurs at the same time as a reduction of \$2 million in the customer's original footprint, then the situation changes. In this case, the first \$2 million of the new growth would cost the customer nothing if it used SBC, since the customer had a commitment to spend \$20 million on SBC's special access services. If all the new business went to SBC, the MARC could be increased to \$28 million and the discounted payment would be \$24.696 million. If the customer wanted to use a non-ILEC provider for the entire \$10 million of new growth business, it would still have to maintain the \$20 million MARC commitment and, with \$18 million spent on special access purchased from SBC, it would not receive any MVP discount. Thus, it would pay \$20 million to SBC. Using the non-ILEC provider would be lower cost only if its total price for the new growth was less than \$4.7 million, a 53% discount off SBC's (pre-MVP) prices of \$10 million. In other words, the rival must beat a price that is less than half of the ILEC's pre-MVP price.
15. Thus in some circumstances a customer switching a part of its business to a non-ILEC provider could lose not only the discount on the portion switched, but also the MVP discount on the portion that remained with the ILEC. When the

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- competitor cannot win the entire business (if, for example, it has loops to some but not to all of the customer's locations), it is effectively foreclosed from serving that customer.
16. As a result, the MVP and similar pricing plans can have the effect of requiring a competitive carrier to beat a marginal price that is well below the average price that special access customers pay the ILEC. That is, the ILEC can charge a price (11.8% below its pre-MVP price) that is well above a competitive carrier's cost, and the competitor will nevertheless find it unprofitable to enter on a small scale, because the customer is penalized on its inframarginal SBC business for giving marginal business to the competitor.<sup>8</sup>
17. The effects of the MVP are magnified when the underlying tariffs for the special access services purchased by a customer contain similar discounts and penalties. To illustrate, consider Southwestern Bell Telephone Company's DS1 Term Payment Plan (DS1 TPP).<sup>9</sup> The base payment in the TPP is circuit-specific—it requires commitments to specific circuits for the term of the contract. But competing carriers often have a considerable amount of customer churn. For such customers, SBC offers an option (the DS1 High Capacity Service Portability Commitment) that waives the specific circuit termination penalties described above, allowing customers to add and remove circuits without penalty. Instead of circuit-specific commitments, the customer commits to a level of DS1 channel terminations. The Portability Commitment lasts for three years. The commitment level is 100% of the total DS1 channel terminations in service in the month preceding the start of the agreement. This includes DS1s under term commitments and month-to-month arrangements.

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<sup>8</sup> Like many exclusionary strategies, this can be defeated if entrants can realistically enter on a large scale and serve all (or a sufficient set of) customers. Thus it is exclusionary only if that is unrealistic. It is my understanding that after years of policymakers encouraging CLEC entry, CLECs still directly address only a very limited set of buildings. See *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, CC Docket No. 01-338, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, 18 FCC Rcd. 16978, 17155, n.856 (2003). (“Both competitive LECs and incumbent LECs report that approximately 30,000, *i.e.*, between 3% and 5% of the nation's commercial office buildings, are served by competitor-owned fiber loops.”).

<sup>9</sup> Tariff F.C.C. No. 73, Section 7.2.

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18. Each month, the total number of 2, 3, 5, and 7 year DS1 TPP Channel Terminations for the previous month will be calculated and measured against the commitment level. If this total is less than 80% of the commitment level, then the customer is billed a shortfall penalty equal to the difference between 80% of the CL and the actual number purchased times the non-recurring charge. If this total is more than 124% of the CL, then the customer is billed an adjustment factor equal to the difference between 124% of the CL and the actual number purchased times the non-recurring charge.<sup>10</sup> The customer may increase its CL by submitting a written request, and is likely to do so given the “growth penalty” that applies if it does not promptly commit its unexpected demand growth to SBC.
19. If the customer terminates the Portability Commitment or wants to decrease the CL prior to the end of the 3-year commitment, termination liabilities apply. The termination liability is calculated as the decreased number of channel terminations multiplied by the prevailing month-to-month recurring rate multiplied by the number of months remaining in the portability commitment.
20. To supply a portion of the services a customer has placed in the MVP umbrella, a competitor may have to reduce its rates to make up for payments such as the shortfall penalty and/or termination liability specified in the DS1 TPP. These payments are in addition to the penalties in the MVP. Together, the penalties in all the tariffs for services that a customer switches to a competitor are likely to be high enough to make the customer unprofitable for the competitor to win, even when the ILEC’s overall level of prices for special access is above the competitor’s long-run cost. Again, these provisions, and others like them in the various term and volume discount plans offered by the ILECs artificially increase a customer’s cost of switching, and raise competitors’ costs of acquiring customers.
21. It is a tempting fallacy to think that optional discount plans cannot be harmful simply because consumers select them voluntarily. The claim that voluntary

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<sup>10</sup> Because only 2, 3, 5, and 7-year commitments are counted when the shortfall penalty is calculated, the portability commitment penalizes carriers who have a large portion of their DS1 in month-to-month or 1-year commitments, thus providing incentive to enter into longer contracts.

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discounts cannot harm consumers assumes that basic month-to-month rates are not affected, but in fact, once an ILEC has contracted with some of its customers for a percentage discount off the month-to-month tariff, it has an incentive to raise the latter above the level that it would have chosen otherwise.<sup>11</sup> In the longer term, exclusionary contracts can be expected to harm competition and customers, whether or not they decrease prices in the short run.

### **IV. Dr Taylor's Analysis Cannot Show that ILECs Lack Market Power**

22. Dr William Taylor has submitted a report<sup>12</sup> arguing that price data show that Verizon lacks market power. The basic syllogism is that average revenue per unit measures have fallen, hence prices have fallen, hence there is no market power. Unfortunately, each step of this syllogism is fallacious. As a preliminary matter, I examine Dr. Taylor's claim that the average revenue per special access line has fallen over time. Next, I examine the first part of his syllogism, that reductions in the average revenue per line imply that prices of special access products have fallen. Finally, I analyze the second part of his syllogism, that reductions in price imply the absence of market power.

#### **1. Flaws in the Average Revenue per Line as a Measure of Price**

23. Dr. Taylor claims that "various measures of average revenue per circuit have fallen even as the demand for special access services has increased."<sup>13</sup> After describing six limitations<sup>14</sup> of his chosen price measure, the average revenue per line, he concludes: "Nevertheless, even with those caveats, the picture that emerges from the ARMIS average revenue per line data is quite clear: average revenue per line has decreased over the 1996-2004 period and decreased faster during the pricing flexibility period (2001-2004)."<sup>15</sup> Dr. Taylor did not include sufficient information to verify his calculations.

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<sup>11</sup> See Borenstein, *supra*.

<sup>12</sup> Declaration of William E. Taylor on Behalf of Verizon, In the Matter of Special Access Rates for Price Cap Local Exchange Carriers, WC Docket No. 05-25. Henceforth, Taylor Declaration.

<sup>13</sup> Taylor Declaration, at ¶ 9.

<sup>14</sup> Taylor Declaration, at ¶ 15.

<sup>15</sup> Taylor Declaration at ¶ 16.

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24. Dr. Taylor adjusted Special Access Revenue as reported in the ARMIS records to remove DSL revenues, using data he obtained from Verizon on its DSL revenues for 2002-2004.<sup>16</sup> These DSL revenues are not part of the public record, and Dr. Taylor does not include the data he obtained from Verizon in his Declaration. In addition, he removed DSL revenues for years prior to 2000 based on the observed growth of DSL revenues in the years for which he had data. Without the underlying data, it was not possible to judge whether his calculations were correct or whether this extrapolation was reasonable.
25. Dr. Taylor relied on the number of access lines reported in ARMIS 43-08, columns *ff* and *fk*.<sup>17</sup> The ARMIS Report instructions require carriers to calculate the number of special access lines as follows:

“The number of 64 kbps or equivalent digital special access lines terminated at the customer designated premises. ... Where DS-3 or DS-1 service is provided without individual 64 kbps circuit terminations, multiply the number of DS-3 terminations by 672 and the number of DS-1 terminations by 24 when calculating the value for this column.”<sup>18</sup>

For DS1 and DS3 lines that are provided with individual 64 Kbps circuit terminations<sup>19</sup>, the ARMIS data appear to provide a reasonable measure of capacity as represented by voice grade equivalent lines. For DS1 and DS3 lines that are provided without individual circuit termination, the ARMIS data would appear to overestimate the line count since it assumes that the entire capacity is used, whether or not it is, in fact, used. That is, a customer who needs only 12 DS0s worth of capacity, but who buys a DS1 because it is less costly than 12 DS0s, is assumed to purchase 24 DS0s if the ILEC is not asked to provide individual circuit terminations. Accordingly, the average revenue per voice-grade equivalent is artificially reduced.

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<sup>16</sup> Taylor Declaration at ¶ 18.

<sup>17</sup> Taylor Declaration at footnote 10.

<sup>18</sup> FCC Report 43-08.

<sup>19</sup> A 64 Kbps line is equivalent in capacity to a voice grade circuit.

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26. I do not have the data to verify this downward bias in Dr. Taylor’s estimate of the “price”. Nor can I verify that this bias has not increased over time, contributing, at least in part, to Dr. Taylor’s finding that the average revenue per line has fallen over time. Since data communications lines often do not need individual 64 Kbps terminations, and since data communications grew more rapidly than voice communications during the period at issue, there was likely an increase in the fraction of lines for which the ARMIS reporting requirements resulted in an overcount of special access lines. If so, the ARMIS line count would grow at a faster rate than would be warranted by the actual growth in demand for capacity. The calculated average revenue per ARMIS line would then decline more quickly than the average revenue per unit of capacity actually demanded.
27. In sum, Dr. Taylor’s conclusions regarding the decline of the average revenue per line over time cannot be verified with the data available to me. There are sound reasons for believing that at least a part of the reduction may be due to ARMIS reporting conventions but this portion of the reduction cannot be quantified with the available data.
28. Much of Dr. Taylor’s analysis focuses on “various measures of the average revenue per circuit”.<sup>20</sup> Dr. Taylor asserts that this is a reasonable proxy for price: “Average revenue per voice-grade equivalent circuit is a reasonable measure of the price that customers actually pay for the special access service they receive.”<sup>21</sup>
29. To calculate the average revenue per voice-grade equivalent circuit, Dr. Taylor divides the total revenue obtained from the services in question by the number of special access lines obtained from ARMIS 43-08. As I have indicated earlier, the ARMIS reporting convention results in an overcount of the demand for capacity, especially for lines used for data communication.
30. The following illustrative example demonstrates my earlier point that the ARMIS measure of special access lines overstates the appropriate measure of capacity, and, as a result, contributes to underestimating the price per unit capacity actually

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<sup>20</sup> Taylor Declaration, at ¶ 9.

<sup>21</sup> Taylor Declaration, at footnote 7.

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- paid by customers. Suppose a DS1 is priced at \$365 per month, and a DS3 is priced at \$2,290 per month.<sup>22</sup> These prices are assumed to remain constant in this example. Therefore, the actual change in prices in this example is zero.
31. Consider a consumer who initially purchases 6 DS1 circuits for a total charge of \$2,190. If the consumer uses all 144 voice-grade circuits in the 6 DS1s for voice traffic, the average revenue per used circuit would be  $\$2,190/144 = \$15.21$ . Suppose the consumer's calling volume increases, and 168 voice-grade circuits are now needed to carry the new calling volume. The consumer could order another DS1 for an additional \$365, and use the additional 24 voice-grade circuits to carry the additional traffic. Alternatively, the consumer could replace the 6 DS1s with a DS3, set up 168 channel terminations on the DS3 and obtain the same quality of service that he would have obtained on 7 DS1s. The additional cost of the DS3 would be only \$100 (\$2,290 for the DS3 less \$2,190 for the 6 DS1s already in place). The DS3 would be less expensive than 7 DS1s, even though a large fraction of the DS3 was left idle.
32. If the DS3 were provided with individual circuit terminations, the ARMIS record would reflect 168 special access lines, and the average revenue per unit would be \$13.63 for a price reduction of 10.4%. Thus this ARMIS record would show a relatively modest reduction in price even though no prices had been reduced.
33. If the DS3 were provided without individual circuit terminations, the ARMIS record would reflect 672 terminations, and the average revenue per line would be \$3.41 for a much larger apparent price reduction of 77.6%.
34. But recall that the actual change in prices in this example is zero. The change in prices as measured by the average revenue per ARMIS line is -10.4% when channel terminations are provided by the BOC. The change in prices as measured by the average revenue per ARMIS line is -77.6% when channel terminations are not provided by the RBOC. In this example, the average revenue per line falls regardless of the way in which ARMIS records the number of lines demanded by

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<sup>22</sup> These are standalone monthly rates charged by SBC in California in July 2004, as reported in the Declaration of M. Joseph Stith, WC Docket No. 04-313, Attachment 1, page 13 of 20.

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- the customer, even though no prices have fallen. In general, the change in average revenue per ARMIS line will understate the change in prices paid by consumers, and in times of growing demand, overstate the reduction (if any) in the prices paid by consumers.
35. Dr. Taylor tries to correct for some of the limitations of average revenue per line by calculating separate average revenues for DS1 and DS3 lines. Shifts from DS1 to DS3 circuits do not affect the average revenue per line for each category, removing one flaw in the average revenue measure. Dr. Taylor found that: “DS-1 and DS-3 prices fell dramatically for Verizon East between 2000 and 2001; in fact, they fell at a much faster rate than would have been required by the price cap formula. Possible explanations include a national recession and the telecommunications industry meltdown.”<sup>23</sup>
36. But DS-1 and DS-3 lines are not commodities supplied by price-takers with upward-sloping supply curves. A recession or a telecommunications meltdown may lower demand but there is no clear reason to believe it raises demand elasticity or lowers the incremental cost of supplying such lines. A more natural “composition effect” explanation of this price reduction is available. Since DS1 lines are sold at different prices (with lower prices for longer term commitments and larger volumes purchased), a shift in demand from high price contracts to low price contracts can result in a reduction in average revenue per line even though no prices were reduced. The same plausible explanation applies to DS3 lines. Thus one cannot conclude that Dr. Taylor’s partial disaggregation of all special access lines into DS1 and DS3 lines repairs the flawed average revenue measure.
37. For reasons described above, when customers upgrade from multiple DS0s to a DS1 or from multiple DS3s to OCn services, the decrease in average revenue per access line will overestimate the price reduction, if any.
38. The limitations of measures similar to the Average Revenue per Special Access Line are well known. Indeed, in his published work on the long-distance market, Dr. Taylor pointed out several flaws with a related measure of price – the Average

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<sup>23</sup> Taylor Declaration, at ¶ 29.

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Revenue per Minute (ARPM) for long-distance calls. Dr. Taylor constructs a simple example with two products in which “ARPM declines despite the fact both of the component usage prices have increased.”<sup>24</sup> Dr. Taylor constructs other simple examples to illustrate deficiencies of average revenues as measures of price, and points out that “while AT&T’s reported ARPM has declined, competition has not brought benefits of lower prices to low-volume users.”<sup>25</sup>

39. In his Declaration, Dr. Taylor states that “[t]he fact that prices fell much faster than GDPI-PI – X indicates that competitive forces have constrained LEC special access pricing, as anticipated by the Commission’s pricing flexibility decision.”<sup>26</sup> To reach this conclusion, Dr. Taylor compares changes in the Average Revenue per Line to the changes in the Price Cap Index (PCI). This is not a useful comparison. ILECs are required to compare an Average Price Index (API) to the PCI, and report this comparison to the FCC. Table 1 below, based on data submitted by Verizon BNTR to the FCC, shows that for special access lines taken as a whole, the actual change in prices is almost exactly equal to the reduction required by the price cap plan, strongly suggesting that the price cap was a binding constraint on Verizon’s special access prices, contrary to Dr Taylor’s suggestion that competition has driven prices below the level required by price cap regulation.

<b>Table 1: API and PCI for Verizon (BNTR)</b>				
	2002	2003	2004	2005
Total Special Access PCI	47.88	45.73	43.40	43.47
Total Special Access API	47.88	45.73	43.40	43.33
<i>Source: Verizon TRP Filings</i>				

<sup>24</sup> William E. Taylor and J. Douglas Zona. “An Analysis of the State Of Competition in Long-Distance Telephone Markets.” *Journal of Regulatory Economics* 11: 227-255 (1997). Page 238. Henceforth, Taylor and Zona.

<sup>25</sup> Taylor and Zona, page 240.

<sup>26</sup> Taylor Declaration, at ¶17.

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Moreover, rates in pricing flexibility areas have increased,<sup>27</sup> suggesting that competitive carriers have not been able to discipline the incumbents' special access prices in areas that have been deemed competitive.

### **2. The Relationship between Trends in Prices and Market Power**

40. Dr. Taylor's Declaration largely focuses on attempting to show that prices for special access have fallen over time. He infers that Verizon does not have market power. For instance, in his Declaration he writes:

"A careful analysis of that data does not show that Verizon has been able to exercise market power. On the contrary, prices for individual DS1 and DS3 services, as well as average revenue per special access circuit have fallen steadily for special access circuits." At 6.

"Customers have benefited from additional competition and pricing flexibility as demonstrated by the continuing expansion of demand volumes accompanied by continuing falling prices." At 4.

"The NPRM entails a second analysis that entails assessing the level of and changes in the degree of competition in the marketplace, "short of conducting a burdensome market power analysis", against which the Commission warned in ¶72 of the NPRM. Unfortunately, after that warning, the NPRM (¶72-111) immediately sets out precisely the information requirements and calculations that would be necessary to undertake a market power analysis for special access services.

**Fortunately, however, the evidence from recent trends in quantities and prices of special access services makes such an analysis unnecessary, as the primary price and quantity data show no signs of the exercise of market power by incumbent providers. ... Using a variety of data sources, I show that various measures of average**

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<sup>27</sup> Evidence supporting this point can be found in: In the Matter of Special Access Rates for Price Cap Local Exchange Carriers, WC Docket No. 05-25. Comments of CompTel/ALTS, Global Crossing North America, Inc., and NuVox Communications. Pages 6-9.

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**revenue per circuit have fallen even as the demand for special access services has increased.”** At 8-9. (Emphasis added).

41. But even if Dr. Taylor were correct that a decline in average revenue is a reasonable proxy for a decline in price, price reductions do not prove lack of market power. Even a monopoly will reduce price if marginal costs fall or if demand becomes more elastic. In addition a firm with decreasing, but still very substantial, market power will reduce prices for that reason.
42. While there are pitfalls in using price-cost data to make inferences about the state of competition, it is clear that in any such endeavor it logically is the *relative levels* of price and cost, not the *rate of change* of price, that matter. Moreover, the Commission is concerned about whether prices are just and reasonable, not (only) with determining whether firms “lack market power.”
43. In his published work on competition in long distance markets, Dr. Taylor has argued that competitive prices will allow successful firms to recover their forward-looking incremental costs including an acceptable return on its investment.<sup>28</sup> He observed that the presence of high operating margins supports the conclusion that regulated competition has not produced substantial consumer benefits.<sup>29</sup> Dr. Taylor also recognizes that lower prices and increased demand can sometimes be mistakenly ascribed to competition.<sup>30</sup>
44. In his Declaration in this Proceeding, Dr. Taylor himself recognizes the limitations of an analysis of trends in prices without information about costs. “Treating a small but significant nontransitory increase in price as an exercise of market power assumes the initial price is a competitive market price. Suppose 10 years of price cap regulation had constrained ILEC special access prices to lie below a competitive market level. In that case, a significant and sustained price increase when price cap regulation was removed would be welfare-increasing

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<sup>28</sup> Taylor and Zona, Page 230.

<sup>29</sup> Taylor and Zona, page 229.

<sup>30</sup> Taylor and Zona, page 237.

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rather than an exercise in market power.”<sup>31</sup> Elsewhere in the Declaration, Dr Taylor states: “In antitrust economics, this error – treating an increase from the current price as an exercise in market power – is called the “Cellophane fallacy”...”<sup>32</sup> However, Dr. Taylor’s analysis does not actually compare his measure of the BOCs’ special access prices to any benchmark of cost.

45. Dr. Taylor’s comparison of the average revenue per special access line to the price reductions required under price caps provides no useful information on the relationship of prices to costs.<sup>33</sup> Under traditional price caps, the price cap formula of inflation (or GDP-PI) less increases in productivity in the telecommunications sector (or the X-factor) is intended to capture the expected reduction in cost that would be achieved by the regulated firm operating efficiently. As Dr. Taylor himself points out, actual price changes may vary dramatically from the average change embodied in the price cap, so that differences between prices (especially when they are misrepresented by the average revenue per line) and the price cap in the short run may not contain useful information on the state of competition, as indicated by the price-cost margin.<sup>34</sup> In any event, the cap under the CALLS plan was never intended to represent expected changes in cost, and a comparison of price changes to GDP-PI – X during the CALLS period is not helpful in determining whether prices are converging to the relevant costs.
46. Dr. Taylor also suggests that problems of allocating common costs make direct price-cost comparisons impossible. This is correct if the costs of special access are predominantly common costs as between special access and other services, but not if a large fraction of the cost is the cost of customer-specific last-mile infrastructure that the customer uses for special access. Indeed, as I have argued elsewhere,<sup>35</sup> a core principle of Telecommunications Act unbundling is that the common-cost problem becomes much less severe if one is pricing network

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<sup>31</sup> Taylor Declaration at 36.

<sup>32</sup> Taylor Declaration at footnote 21.

<sup>33</sup> See Figure 3, and the associated discussion. Taylor Declaration, page 9.

<sup>34</sup> Taylor Declaration at 31.

<sup>35</sup> Joseph Farrell, “Creating Local Competition”, *Federal Communications Law Journal* 49:1, November 1996, 201-215.

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elements such as loops than if one is pricing services such as long-distance access. I understand that special access is essentially the full bundle of services of the loop or similar last-mile infrastructure (perhaps together with transport).

47. The BOCs have not submitted estimates of the forward-looking economic costs of special access, focusing instead on limitations of available accounting costs in the ARMIS records. However, forward-looking economic costs can be estimated using two reasonable approaches. First, UNE rates for dedicated transport are often based on forward-looking economic costs calculated using an engineering-economics cost proxy model. I understand that high capacity UNEs (DS1s and DS3s) and perhaps especially EELs are the functional equivalent of special access, so directly relevant UNE rates exist. Second, the rates charged by a competitive provider of special access services are unlikely to be systematically below its forward-looking economic cost. Thus UNE rates and CLEC special access charges may be useful benchmarks for comparing an ILEC's special access rates versus forward-looking long-run cost.
48. The record in this proceeding includes a substantial amount of information on the relationship between UNE prices and special access prices, including:

“In comparing special access vs. UNE prices, Worldcom found that DS1 UNE loops were about 18% less than comparable special access prices and DS3 UNE loops 28% less. The fixed portion of transport under UNEs was about 10% less for DS1s and the fixed DS3 transport UNE prices were actually higher than special access. On the other hand, major variances occurred on interoffice mileage (average DS1 UNE per mile charge was \$1.52 vs. \$13.72 for special access, and for DS3s it was \$23.35 vs. \$57.84).”<sup>36</sup>

“In Atlanta, the mileage component of a 10-mile (UNE) EEL was \$1.80, whereas BellSouth charged \$180 in mileage in MTM special access prices or \$80 under their discount plan. Similar disparities are found in

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<sup>36</sup> Henry G. Hultquist, Worldcom, Letter to Marlene H. Dortch, 10/29/02, FCC, Docket CC 96-98, 98-147, 01-338 (p. 7).

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Sothwestern Bell and Ameritech (pp 21-22, 33-34). Additionally, mileage costs were twice as high in price flex MSAs (\$8/mile) than under price caps (\$3.90/mile).”<sup>37</sup>

49. A study by Mr. Joseph Stith of AT&T compares (a) special access rates in price cap areas to the corresponding rates in areas where the BOCs have been granted pricing flexibility, (b) price cap rates to the corresponding UNE rates, and (c) price flexibility rates to UNE rates. He finds that “for a 10-mile circuit the Bells’ tariffed rates are, on average, significantly above their rates for equivalent UNEs.”<sup>38</sup> Mr. Stith finds similar results for zero-mile circuits.
50. In its Comments in this Proceeding, BellSouth submitted a study by RHK showing that ILEC prices substantially exceed either comparable UNE rates or competitors’ rates.<sup>39</sup> The study reports that BellSouth’s average special access prices are \$240, \$1,356 and \$5,077 for DS1, DS3 and OCN circuits. The average prices for BellSouth’s UNE transport element for DS1 and DS3 circuits are reported to be \$141 and \$623, or about half the corresponding special access prices. The average prices charged by competitive carriers for DS1, DS3 and OCN circuits are reported to be \$140, \$700, and \$3,300, respectively, or about half the corresponding Bell special access prices. Since UNE prices are based on estimated forward-looking costs and since competitive carriers presumably seek at least to cover their forward-looking costs, the RHK study is consistent with the conclusion that BellSouth’s special access prices considerably exceed forward-looking costs.
51. The RHK study purports to show that BellSouth has a small revenue share for many categories of special access services, yet it reports that BellSouth’s prices for these services are significantly higher than the prices charged by competing carriers, and also considerably higher than UNE rates. The study does not explain why, in an apples-to-apples comparison, BellSouth is able to charge a substantial

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<sup>37</sup> NuVox, Initial Comments, 10/4/04, WC 04-313, p. 22.

<sup>38</sup> Declaration of M. Joseph Stith, WC Docket No. 04-313, September 30, 2004. At 17.

<sup>39</sup> Declaration of Stephanie Boyles, June 8, 2005. WC Docket No. 05-25.

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premium over its competitors, and maintain prices in excess of UNE rates based on forward-looking costs.

52. The evidence thus suggests that special access rates are often significantly above corresponding UNE rates. The UNE rates are based on forward-looking cost, incorporating (unlike competitive carriers' pricing) ILEC-level economies of density. ILECs' special access rates are also considerably higher than the rates charged by competitive carriers.

**Certification**

I hereby certify, under penalty of perjury, that the statements and information contained in my declaration are correct and true to the best of my knowledge.

A handwritten signature in black ink, appearing to read "Joseph Farrell", is written above a horizontal line.

Joseph Farrell  
29 July, 2005