COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

Review of the Federal Communications Commission's Triennial Review Order Regarding Unbundling Requirements for Individual Network Elements	))))	Case No. 2003-00379

REBUTTAL TESTIMONY OF

JAY M. BRADBURY

ON BEHALF OF
AT&T COMMUNICATIONS OF THE SOUTH CENTRAL STATES, LLC

MARCH 31, 2004

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND POSITION TITLE.

A. My name is Jay M. Bradbury. My business address is 1200 Peachtree Street, Suite 8100, Atlanta, Georgia 30309. I am employed by AT&T Corp. ("AT&T") as a District Manager in the Law and Government Affairs Organization.

Q. ARE YOU THE SAME JAY M. BRADBURY THAT PREVIOUSLY FILED DIRECT TESTIMONY IN THIS DOCKET ON FEBRUARY 11, 2004?

A. Yes, I am.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. Part A of my rebuttal testimony responds to portions of the direct testimony of BellSouth's witnesses W. Keith Milner, Pamela A. Tipton, Christopher Pleatsikas, Dr. Debra Aron and Kathy K. Blake; and Alltel's witness Jeffrey W. Reynolds, regarding issues concerned with Mass Market Switching.

I have organized Part A of my rebuttal in sections around the following topics:

- Section I. The factual information about AT&T's deployment of local switches and network in Kentucky reveals that AT&T does not meet the Triennial Review Order's ("TRO") qualifications to be considered a "trigger" candidate.
- Section II. AT&T's (and other CLECs') actual local switch and network deployment, serving the mass market, has been misrepresented in the ILEC's direct testimony.
- Section III. Knowledge of where CLECs are actually providing competitive choices to customers through the use of both UNE-P and UNE-L is vital to the Commission's tasks in this docket.

- Section IV. The CLEC's ability to benefit by provisioning DSL services to its customers in Kentucky is overstated by BellSouth's assumptions in its BellSouth Analysis of Competitive Entry ("BACE") model.
- Section V. Impairment caused by existing legacy network technology cannot be cured by improvements to the hot cut process – batch, bulk, or rolling.
- Section VI. Conclusion.

Part B of my rebuttal responds to portions of the testimony of BellSouth's witnesses A. Wayne Gray and Shelley W. Padgett regarding issues concerned with High Capacity Loops and Transport.

The testimony of these witnesses contains terminology and concepts regarding the deployment of physical facilities (fiber and copper) and the electronic components associated with them that obfuscate how high capacity loops and dedicated transport are actually provisioned. The witnesses then attempt to leverage the confusion they have created to support a number of false conclusions about actual and potential loop and transport deployment in Kentucky. I will clarify the facts as they relate specifically to AT&T's lack of high capacity facilities in Kentucky. Further, I will discuss how the muddle of terminology and concepts that BellSouth's witness have created does not comport with the Triennial Review Order[1] (TRO), so that any conclusions based upon these defective foundations do not support BellSouth's claims that it should be relieved of its obligations to provide high capacity loops and transport as Unbundled Network Elements (UNE).

[1] Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, *In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers (CC Docket No. 01-338); Implementation of the Local Competition Provisions of the Telecommunications Act of 1996 (CC Docket No. 96-98); Deployment of Wireline Services Offering Advanced Telecommunications Capability (CC Docket No. 98-147)*, FCC No. 03-36 (rel. Aug. 21, 2003).

PART A – MASS MARKET SWITCHING ISSUES

I.
THE FACTUAL INFORMATION ABOUT AT&T'S DEPLOYMENT OF LOCAL SWITCHES AND NETWORK IN KENTUCKY REVEALS THAT AT&T DOES NOT MEET THE TRO'S QUALIFICATIONS TO BE CONSIDERED A "TRIGGER CANDIDATE"

Q. PLEASE DESCRIBE AT&T'S LOCAL SWITCH AND NETWORK DEPLOYMENT IN KENTUCKY THAT IS CAPABLE OF SERVING THE MASS MARKET.

A. In Kentucky, AT&T does not operate any switches capable of providing service to mass market customers. Further, AT&T does not have any collocations in Kentucky capable of serving mass market customers.

Q. IS THERE A DISTINCTION BETWEEN SWITCHES BEING MASS MARKET CAPABLE AND ACTUALLY SERVING THE MASS MARKET FOR PURPOSES OF THE TRO SWITCHING TRIGGER ANALYSIS?

A. Yes. To satisfy the TRO "trigger" test, a CLEC must actually be serving mass market customers with its own switch and meet other criteria established in the TRO that will be discussed below. A Northern Telcom DMS500 switch that serves only customers on DS1 or higher loops "could" be used to provide analog POTS service to mass market customers, but unless it "is" doing so, and meets the other necessary criteria, the switch and the CLEC may not be counted as a trigger. AT&T has no switches in Kentucky capable of serving mass market customers and is not actually serving any mass market customers from its own toll switches in Kentucky.

Q. SINCE AT&T HAS NO SWITCHES OR COLLOCATIONS IN KENTUCKY SERVING MASS MARKET CUSTOMERS HOW DO BELLSOUTH AND ALLTEL CLAIM THAT AT&T IS A TRIGGER COMPANY?

A. Each ILEC has erroneously relied upon information from third parties and an analysis of data that was never intended to be used in such a manner rather than relying upon the factual information provided by AT&T in the discovery process associated with this docket and others like it in other states in BellSouth's territory. I will explain more fully in Section II below.

II.
AT&T'S (AND OTHER CLECS') ACTUAL LOCAL SWITCH AND NETWORK DEPLOYMENT, SERVING THE MASS MARKET, HAS BEEN MISREPRESENTED IN THE ILEC'S DIRECT TESTIMONY.

Q. BELLSOUTH'S WITNESS PAMELA A. TIPTON STATES THAT "CLEC'S HAVE DEPLOYED MORE THAN 30 SWITCHES IN KENTUCKY, AT LEAST 6 OF WHICH ARE SERVING 'MASS MARKET' CUSTOMERS." SHE THEN PROVIDES EXHIBIT PAT-1 THAT SHE CLAIMS IS A LIST OF CLEC SWITCHES DEPLOYED IN KENTUCKY. ARE HER STATEMENT AND EXHIBIT ACCURATE RELATIVE TO EITHER AT&T OR CLECS IN GENERAL?

A. No. Nowhere in her testimony or its exhibits does Ms. Tipton identify the switches about which she writes or the wire centers to which they provide service. Additionally, in responses to discovery, BellSouth admits that it did not ask about the number of mass market customers being served and has no data to support any

statements about how many there are. In AT&T's Interrogatory 123, BellSouth was asked to provide the number of mass market customers it claimed to be served from each switch covered by Ms. Tipton's statement. BellSouth's response was "BellSouth did not request that CLECs provide the number of mass-market customers served by each CLEC switch. BellSouth has made a conservative *assumption* that the switches identified by CLECs as providing qualifying service in Kentucky serve the general geographic area within which the switch resides." (Emphasis added.) Thus, BellSouth does not have (and affirmatively did not seek) the very kind of "objective" information that is necessary for the Commission to make a reasonable judgment as to whether the proposed trigger candidates should be counted when applying a trigger test.

Although AT&T has no local switches in Kentucky it does operate two (2) toll switches in Kentucky. Information regarding these switches was provided to BellSouth in interrogatory responses and discussed with BellSouth in at least two informal meetings in which I personally participated. Despite having this information, BellSouth and Ms. Tipton cite the source for PAT-1 as the Local Exchange Routing Guide ("LERG"), a group of databases administered by Telcordia for the industry, the purpose of which is to provide routing information, not a count of switches.

PAT-1 identifies 34 rows of data as "switches" that Ms. Tipton has apparently extracted from one (or more) of the LERG databases using some unidentified and inexplicable sorting criteria. While this might be the source for the claim of over 30 switches, PAT-1 does not support that claim. Despite knowing that AT&T operates

only two toll switches, Ms. Tipton would have this Commission mistakenly believe from PAT-1 that AT&T/TCG operates 5 switches in Kentucky, including one located outside the Commonwealth that has no capability to serve the mass market. It is impossible to determine from PAT-1 either the number of switches CLECs are operating in Georgia or the number of CLEC switches which are, or are not, serving mass market customers.

I lack sufficient knowledge of the other CLECs' switch deployments to determine specifically other examples of inaccurate and irrelevant data, but a scanning of the CLLI codes associated with other carriers indicates to me that several are likely present in PAT-1. It is impossible to determine from PAT-1 either the number of switches CLECs are operating in Kentucky or the number of CLEC switches which are, or are not, serving mass market customers. Ms. Tipton and BellSouth fail to provide relevant data in PAT-1 or to state the criteria they are using to gather and validate the data they present as factual Thus, any conclusions reached by Ms. Tipton regarding the number of CLEC switches in Kentucky serving mass market customers are inaccurate and cannot be relied upon by the Commission in determining the outcome of this proceeding.

Q. YOU STATED THAT AT&T OPERATES 2 TOLL SWITCHES IN THE COMMONWEALTH. WHY DID YOU INCLUDE THIS DATA AND HOW IS IT RELEVANT TO THE MASS MARKET SWITCHING SELF-PROVISIONING TEST OF THE TRO?

A. I have included this data to be complete in my portrayal of AT&T's presence in Kentucky and to demonstrate that these two (2) switches are, in fact, not capable of providing local service to mass market customers despite the fact that they provide a form of local service to large enterprise customers.

The ILECs are aware that these two (2) switches are used to provide a service known as AT&T Digital Link ("ADL") to enterprise customers that have their own on-site, customer owned, or customer provided switches, often referred to as Private Branch Exchange ("PBX") switches. Despite this knowledge, PAT-1 contains data related to AT&T's toll switches that misleadingly makes it appear that these switches provide local service to mass market customers.

The Commission may also remember discussions of ADL in other dockets. The customer's PBX provides all the classical "line side" functions to the customer's telephone sets (dial tone, vertical features, etc.) and is connected to both the ILEC local and IXC long distance networks using "trunks," not "lines". Both the ILEC local switch and the IXC long distance switch treat the PBX switch as if it were another switch on their networks. As a long distance company, AT&T has long provided "special access" trunk connections between large enterprise PBX switches and our toll switches. After the passage of the Act, AT&T began offering these same customers the opportunity to reduce their overall telecommunications expenses by using their existing "special access" trunk connections to originate and terminate local traffic. Using this option, large enterprise customers are able to eliminate the vast majority of their PBX trunks to the ILEC.

Because a toll switch with ADL customers must terminate both toll and local traffic to an ADL customer's PBX, it is necessary for the toll switch and its Location Routing Number ("LRN") to appear in local portions of the LERG databases. Unfortunately, due to Telcordia's database design limitations, when this happens the same (toll) switch appears in the LERG with a different Common Language Location Identification ("CLLI") code than it has in the toll world. Toll switch CLLI codes typically end in three characters, --T[2]; however, the same switch, when listed in the local sections of the LERG, will have a CLLI that typically ends in DS-[3] . AT&T pointed this out to BellSouth in at least one informal discussion in which I participated and included the information in AT&T's response to BellSouth's Interrogatory 1. (See Exhibit JMB-R1.) Despite this knowledge, PAT-1 contains data related to AT&T's toll switches that misleadingly makes it appear that these switches provide local service to mass market customers.

Q. CAN THESE 2 TOLL SWITCHES BE MODIFIED TO SERVE MASS MARKET LOCAL CUSTOMERS?

A. No. A more detailed explanation of why this is true is included in Exhibit JMB-R1. Briefly, these 2 switches are a 4ESS (which even BellSouth agrees cannot be so modified), and a DMS "edge" switch that AT&T purchased with only a toll trunk switching capability. The "edge" switches do not have a "line," or "customer," side and cannot provide dial tone or vertical features. They are, like the 4ESS, purely trunk switching machines.

[2] For example, 01T, 03T.
[3] For example, DS3, DS6.

AT&T's two (2) toll switches, when used to provide the ADL product, are serving only large enterprise customers connected to the switches via high-capacity "special access" arrangements through long-term contracts. The switches are not, and cannot be, used to provide local service to mass market customers and are therefore not relevant to the TRO's mass market switching trigger tests.

BellSouth's inclusion of data about these switches in its triggers case, with full knowledge of their characteristics and limitations, skews its analysis, results in misleading conclusions, and renders the overall evaluation of its trigger case unreliable and incompetent for supporting a commission decision.

Q. HOW DID ALLTEL DEPICT AT&T'S SWITCH AND NETWORK DEPLOYMENT IN ITS DIRECT TESTIMONY?

A. Mr. Reynolds also relies upon the LERG as a source of data and he further relies upon an analysis of number portability records. Comparing Mr. Reynolds' Exhibit JWR-2 to Ms. Tifton's PAT-1 illustrates the inappropriateness of attempting to use LERG data in this manner. Where Ms. Tifton lists 34 lines ("switches"), Mr. Reynolds' lists only 31. Relative to AT&T, Mr. Reynolds finds three switches in contrast to Ms. Tifton's five, and shows a different "owner" than Ms. Tifton for two of them (AT&T's two toll switches in Louisville).

Mr. Reynolds' reliance upon number portability records also does not support his claim that AT&T serves mass market customers in the Lexington market he defines. AT&T has no mass market customers in the Lexington market and no capability to serve mass market customers there.

Mr. Reynolds' exhibits JWR-5 and JWR-6 identify a number of customer lines that he states belong to AT&T, either "AT&T Broadband" (OCN 6062) or "TCG Ohio" (OCN 8406). In fact, all of these customers belong to Comcast, a cable TV company that provides residential telephone service over its cable network without making use of any ILEC loop facilities. At one time, AT&T was involved in a joint venture undertaking that included AT&T Local Network Services, AT&T Broadband, and Insight Cable. With the merger of AT&T Broadband and Comcast, all assets and customers were transferred to Comcast in November of 2002. This transfer included the cable head end and associated collocation arrangement in Lexington and the associated switch in Louisville (LSVLKYCSDS4). Mr. Reynolds' exhibits simply illustrate that third party databases associated with the network are not yet capable of being revised in a timely manner to reflect the results of business mergers and dissolutions.

Mr. Reynolds' data about AT&T is inaccurate. AT&T is not a trigger company in Alltel's Lexington market. Further, as is discussed in the direct and rebuttal testimony of CompSouth witness Joseph Gillan, Comcast should not be considered a trigger as it makes no use of ILEC loop facilities. When these facts are considered, Mr. Reynolds' exhibit JWR-6 reveals that, at best, there are only slightly more than 100 mass market customers in Alltel's Lexington market that might be receiving competitive local service from CLECs using UNEL.

III.
KNOWLEDGE OF WHERE CLECS ARE ACTUALLY PROVIDING COMPETITIVE CHOICES TO CUSTOMERS THROUGH THE USE OF BOTH UNE-P AND UNE-L IS VITAL TO THE COMMISSION'S TASKS IN THIS

DOCKET.

Q. ON PAGE 10 OF HIS TESTIMONY, BELLSOUTH WITNESS W. KEITH MILNER PROVIDES AN EXTRACT FROM THE TESTIMONY OF AN AT&T WITNESS IN DOCKET 2000-465, FEBRUARY 6, 2001. MR. MILNER CLAIMS THE EXTRACT IS A DEMONSTRATION OF "CLEC ARCHITECTURAL CONSIDERATIONS," STATES THAT CLEC NETWORKS ARE "NOT CONFIGURED LIKE BELLSOUTH'S", "RELYING ON FEWER SWITCHES AND MORE TRANSPORT." IS THE TESTIMONY MR. MILNER HAS SELECTED DESCRIPTIVE OF HOW AT&T (OR ANY OTHER CLEC) MAKES DECISIONS ABOUT WHEN, WHERE, AND HOW TO DEPLOY ITS NETWORK TO SERVE CUSTOMERS?

A. No. The issue being discussed in AT&T's Arbitration in February, 2001, was the rate BellSouth should pay AT&T when BellSouth terminated calls to one of AT&T's switches. (See Exhibit JMB-R2 for a more complete extract showing the context in which this testimony was presented.) AT&T's position that the "tandem rate" should apply was ultimately upheld. The purpose of the testimony Mr. Milner has selected was to demonstrate that the potential coverage of AT&T's switches was comparable to that of a BellSouth tandem switch – a requirement for eligibility to receive the tandem rate. It does not address the process or factors used in determining if it is economic to deploy network equipment to actually serve the customers based upon where they are located relative to the ILEC's legacy network. The statement that "AT&T has the ability to connect…" does not provide any information about how AT&T, or any other CLEC, determines whether it is economic to make such

connections. Therefore, I believe Mr. Milner misses the mark on a very important issue that must be determined at this hearing.

As I indicated in my direct testimony, a crucial issue in this proceeding is not whether a CLEC simply "can" connect its switch with the local loops of the end user, but whether a CLEC can "efficiently use" its own switch to connect to the local loops of end users. In contrast, the issue being discussed in the testimony Mr. Milner has selected was geographic comparability not the actual deployment of network facilities to serve customers.

Q. IN MR. MILNER'S DIRECT TESTIMONY HE PRESENTS INFORMATION ABOUT THE OPTIONS BELLSOUTH SAYS ARE AVAILABLE TO CLECS IN BUILDING NETWORKS TO SERVE MASS MARKET CUSTOMERS USED IN THE BELLSOUTH ANALYSIS OF COMPETITIVE ENTRY ("BACE") MODEL. IN YOUR DIRECT TESTIMONY YOU CONTRAST ILEC AND CLEC NETWORKS. DO ANY DIFFERENCES IN HOW THE TWO OF YOU DESCRIBE CLEC NETWORKS IMPACT YOUR CONCLUSIONS THAT CLECS ARE IMPAIRED BY THE ILEC'S LEGACY NETWORK ARCHITECTURE?

A. No. We both agree that CLEC networks are not configured like BellSouth's and that CLEC's must rely on fewer switches and more transport than BellSouth. Mr. Milner's testimony describing the network architecture assumptions underlying the BACE model is sufficiently generic as to be non-controversial. However, a number of other BellSouth witnesses point to Mr. Milner's testimony and to the extract from

AT&T's Arbitration testimony in 2001 to support some particularly outlandish positions.

Each of the three "Network Construct" options Mr. Milner describes in his testimony explains how customers served from an ILEC central office (or wire center) are connected to the CLEC's switch using either EELs and collocations or collocations alone. In each option he describes the central office or wire center serving the customer's loop as the starting point of the analysis. The customer's wire center is essential to the "Network Construct" and the process of determining whether it is economic to serve customers in that wire center. This central role for the wire center is also noted in the testimony of BellSouth's witnesses James Stegeman and Dr. Debra Aron, and throughout Mr. Stegeman's exhibits on BACE. However, despite the testimony of witnesses Milner, Stegeman and Aron, two other BellSouth witnesses make the outlandish claims that the wire center concept has no meaning and that where the customer is located is unnecessary information in determining whether CLECs can use their own switching facilities to economically and efficiently serve mass market customers.

Q. WHICH OTHER BELLSOUTH WITNESSES MAKE THE CLAIM THAT THE WIRE CENTER HAS NO MEANING?

A. Dr. Christopher Jon Pleatsikas and Ms. Pamela A. Tipton.

Q. PLEASE DISCUSS DR. PLEATSIKAS' CLAIM.

A. Citing to the hearing transcript in an AT&T arbitration in Florida (FPSC Docket

0007321-TP, Tr. at page 94), similar to the one in Georgia cited by Mr. Milner above, Dr. Pleatsikas concludes his testimony as follows:

> Therefore, the wire center concept is not relevant to market definition in this context, and **specifically not economically relevant in terms of how CLECs provision services to their end users.** The geographic scope of the service offered is limited in part by the CLEC's ability to economically serve those customers using the CLECs' network design, not by the location or span of BellSouth's wire centers. (Pleatsikas Direct, Page 13, lines 4-9. Emphasis added.)

Dr. Pleatsikas' testimony is designed to support the concept of defining the mass market to be Component Economic Areas ("CEA") divided by UNE Zones, but his statements about wire centers having no meaning in determining whether that market definition is valid, or in determining whether it is economic for CLECs to serve customers in a given wire center, are misleading and have the potential of defining a market in such a manner that only certain customers will have competitive choices. If a wire center, included in a market as defined by Dr Pleatsikas, cannot be economically and efficiently served by any CLEC using its own switching facilities, the mass market customers in that wire center having a competitive choice through CLECs' use of UNE-P will lose that choice, and be able to obtain POTS only from the ILEC.

Language in the TRO, at ¶ 501, ¶ 517 and ¶ 520, supports the logical proposition that for impairment to be found non-existent, competition must exist throughout the whole market, not only in portions of the market.

In his direct testimony, CompSouth witness Joseph Gillan discusses the concept of "ubiquity" (pages 45-47), and in their rebuttal testimonies, CompSouth witnesses Don J. Wood and Joseph Gillan discuss other aspects, concepts and tools the Commission

should use to evaluate whether impairment no longer exists ubiquitously across a defined market area from the wire center level up.

Q. PLEASE DISCUSS MS. TIPTON'S CLAIM THAT THE LOCATION OF CUSTOMERS IN A MARKET IS IRRELEVANT.

A. On page 15 of her direct testimony Ms. Tipton, referencing Mr. Milner's testimony discussed above, reaches the following incorrect conclusion about the need to provide more specific information regarding the location of CLEC customers served via UNE-L:

> Given that, the actual physical location of the individual end users in each market area is not relevant. If the CLECs have chosen to serve certain customers in BellSouth's market areas, according to the CLECs, they can serve any customers in those market areas. (Tipton Direct, page 15, lines 8-11.)

"Are," "can" and "can economically," represent three different concepts, only two of which, "are" and "can economically," have relevance to the task before this Commission as a result of the TRO. The "trigger" tests are concerned with "are" - what competitive choices actually exist and where they exist, as a result of the implementation of both UNE-P and UNE-L. The "potential deployment" test is concerned with "can economically" and, as is noted in the testimony of BellSouth's witnesses Milner, Stegeman and Aron, BellSouth incorporates where by basing its analysis on a wire center focused analysis.

Ms. Tipton's claim that customer location is not relevant to her trigger analysis denies the Commission knowledge of the actual data it needs, both to determine whether impairment has ceased to exist in any given market and to protect mass market

customers who currently have competitive choices. AT&T served BellSouth with discovery in an attempt to obtain this necessary information. Analysis of the data in BellSouth's response to AT&T's Interrogatory 115 reveals that facilities based mass market competition is present in only 14 (7%)of BellSouth's 190 Kentucky wire centers. In many of the 14 wire centers, fewer than 3 CLECs are actually present.

Q. WHY IS DATA ABOUT WHICH WIRE CENTERS ARE BEING SERVED BY CLECS USING UNE-L VITAL TO THE COMMISSION'S TASK?

A. As I noted above, customers located in many of BellSouth's wire centers have competitive choices today through one or more CLECs offering service using UNE-P. That simply is not the case for UNE-L. BellSouth's answer to AT&T's Interrogatory No. 89 states that there are no collocation arrangements in 149 of its 190 Kentucky wire centers and their response to AT&T's Interrogatory No. 10 reveals that BellSouth has never performed a hot cut in 166 of its 190 Kentucky wire centers. As noted above, there is no facilities based competition in 93% of BellSouth's Kentucky wire centers.

Based on triggers, a finding that impairment does not exist in a market that contains one or more of these wire centers means that customers who currently have competitive choices for local service, by way of UNE-P, will lose those choices. Such a result is inconsistent with the Act, the TRO as discussed by CompSouth witness Joseph Gillan, and would be a Type 1 error of the type described in the testimony of MCI witness Dr. Mark T. Bryant, i.e., a finding that CLECs without access to unbundled switching are not impaired when, in fact, they are impaired.

IV.
THE CLECS ABILITY TO BENEFIT BY PROVISIONING DSL SERVICES TO IT CUSTOMERS IN KENTUCKY IS OVERSTATED BY BELLSOUTH'S ASSUMPTIONS.

Q. IN YOUR DIRECT TESTIMONY (PAGE 37), YOU CONTRASTED THE CLECS' AND ILECS' ABILITIES TO PROVIDE DSL SERVICES TO CUSTOMERS. HOW DOES BELLSOUTH ADDRESS THIS IN ITS DIRECT TESTIMONY?

A. Mr. Milner recognizes that limitations exist, without being specific as to what the limitations are. "By choosing this configuration, the CLEC also gives itself access to more loops composed entirely of copper facilities, thus enlarging its Digital Subscriber Line ("DSL") footprint…" (Milner Direct, page 5, lines 10-12). In contrast, Dr. Aron's assumptions about CLEC DSL penetration in her Exhibit DJA-05, and thus in the BACE model, do not reflect any consideration of these limitations. For residential customers, Dr. Aron assumes a 5% penetration rate in year one, leaping to 15% in year three. For the small office, home office ("SOHO") customer, she assumes an astounding 10% penetration in year one, leaping to 25% in year three. To place these assumptions in perspective, BellSouth's current penetration rate for its retail FastAccess Service is approximately 6% after being in the market since 1998.

CLECs using UNE-L can only offer DSL service to those customers to whom it can obtain an all copper loop of less than 18,000 feet free of any defects that disqualify it for DSL service. The data provided by BellSouth, in its nine state regional response to AT&T's Interrogatory No. 25 in the Georgia Mass Market Switching Docket No. 17749-U, reveals that only 68% of BellSouth's loops in Kentucky are all copper;

however, as I noted in my Direct Testimony, it is likely that BellSouth can provide its retail FastAccess Service to over 86% of its customers. Therefore, at best, CLECs in Kentucky using UNE-L have approximately 80% of the capability to provide DSL service to customers as BellSouth.

The actual percentage of all copper loops will obviously vary by wire center, but Dr. Aron's assumptions need to be revised to reflect reality before being used in any BACE analysis.

Overstated assumptions about product penetrations will generate overstated revenues and result in false determinations that entry in a given market is economically possible.

V.
IMPAIRMENT CAUSED BY EXISTING LEGACY NETWORK TECHNOLOGY CANNOT BE CURED BY IMPROVEMENTS TO THE HOT CUT PROCESS – BATCH, BULK, OR ROLLING

Q. IN HER TESTIMONY ON PAGE 12, LINE 2 THROUGH PAGE 15, LINE 12, BELLSOUTH WITNESS MS. BLAKE SUGGESTS THAT ONE OF THE KEY REASONS BELLSOUTH HAS DEVOTED SO MUCH OF ITS DIRECT TESTIMONY TO HOT CUTS IS BECAUSE IT EXPECTS CLECS, AT&T, AND/OR COMPSOUTH TO ADVANCE THE ARGUMENT THAT NO ADEQUATE HOT CUT PROCESS IS POSSIBLE USING EXISTING TECHNOLOGY, AND FURTHER THAT THE FCC "REJECTED AT&T'S PROPOSAL" FOR ELECTRONIC LOOP PROVISIONING ("ELP") IN THE TRO. DID THE FCC "REJECT" AT&T'S ELP PROPOSAL?

A. No. The FCC's substantive discussion of ELP occurred in a single paragraph of the TRO (491) that ended as follows:

> Given our conclusions above, we decline to require ELP at this time, although we may reexamine AT&T's proposal if hot cut processes are not, in fact, sufficient to handle necessary volumes. (TRO ¶ 491)

The FCC did not reject ELP, it reserved the right to consider requiring it in the future.

Q. IS AT&T PROPOSING THAT THIS COMMISSION ORDER THE IMPLEMENTATION OF ELP AS A RESULT OF ITS DELIBERATIONS IN THIS DOCKET?

A. No. That is not the purpose of this docket, nor is ELP an issue in this docket. However, AT&T believes that, as a result of this docket, the Commission will find that, without access to unbundled local switching and UNE-P, the CLECs are impaired, just as the FCC determined. The FCC based its determination solely on the issues it found in the evidence before it relating to the ineffectiveness of the hot cut process. The FCC noted that there were likely other causes of impairment (operational and economic) in addition to hot cuts and charged state regulators, like this Commission, to investigate those in the "nine month" proceedings at the same time the states validated the finding of impairment resulting from the hot cut process.

AT&T firmly believes this Commission will find that impairment in Kentucky is widespread and results not only from hot cuts, but also from a number of operational and economic factors directly related to the limitations of the existing legacy technology. AT&T's ELP proposal directly attacks all of the technology limitations and, therefore, has the potential to eliminate impairment economically and

effectively.

The Commission should open a separate docket to address how to eliminate the impairment it will find here. It is in that docket that ELP and any other proposals with potential to eliminate impairment should be considered.

AT&T's discussion of ELP in this docket in no way complicates or obscures this Commission's task in investigating the impairments CLECs face in Kentucky. Rather, it demonstrates that the impairment we are confident the Commission will find can be cured through an industry effort similar to that which was required to remove the impairments to competition in the long distance market through the implementation of equal access.

As I pointed out in my direct testimony, the technology and equipment necessary to implement ELP are available today and are being deployed and used by the ILECs in association with their deployment of DSL services. (Direct, page 44.)

VI.
CONCLUSION

Q. PLEASE SUMMARIZE PART A OF YOUR REBUTTAL TESTIMONY.

A. AT&T is not actively provisioning service using UNE-L to any mass market customers in Kentucky.

BellSouth and Alltel have misrepresented the CLECs' actual deployment of local switches and networks in its direct testimony and failed to provide the Commission with the data to support their claims.

BellSouth has compounded its failure to provide the data to support its claims by improperly asserting that the location of customers being served by both UNE-P and UNE-L, but particularly UNE-L, is irrelevant. Knowing where competition exists today using UNE-P, but would not exist in the future if UNE-P were made unavailable, is critical to the Commission's requirement to foster the on-going development and preservation of competition for local service.

BellSouth has overstated assumptions about the CLECs' ability to provide DSL services in a manner that may lead to the erroneous determination that entry in a given market is economically possible.

The impairment caused by the existing legacy network technology cannot be cured by improvements to the hot cut process, be they "batch", "bulk", or "rolling" processes. AT&T's Electronic Loop Provisioning proposal is capable of curing these deficiencies, but curing the continuing impairment that AT&T believes the Commission will find exists is not an issue in this proceeding. The Commission should open a separate docket to address how to eliminate the impairment it will find in this docket.

PART B - HIGH CAPACITY LOOP AND TRANSPORT ISSUES

Q. WHAT IS THE PURPOSE OF THIS PART OF YOUR REBUTTAL TESTIMONY?

A. Part B of my rebuttal responds to portions of the testimony of BellSouth's witnesses A. Wayne Gray and Shelley W. Padgett regarding issues concerned with High Capacity Loops and Transport.

The testimony of these witnesses contains terminology and concepts regarding the deployment of physical facilities (fiber and copper) and the electronic components associated with them that obfuscate how high capacity loops and dedicated transport are actually provisioned. The witnesses then attempt to leverage the confusion they have created to support a number of false conclusions about actual and potential loop and transport deployment in Kentucky. I will clarify the facts as they relate specifically to AT&T's lack of high capacity facilities in Kentucky. Further, I will discuss how the muddle of terminology and concepts that BellSouth's witness have created does not comport with the Triennial Review Order[4] (TRO), so that any conclusions based upon these defective foundations do not support BellSouth's claims that it should be relieved of its obligations to provide high capacity loops and transport as Unbundled Network Elements (UNE).

Q. CAN YOU PROVIDE A HIGH LEVEL OVERVIEW OF THE FCC'S FINDINGS REGARDING HIGH CAPACITY LOOPS AND DEDICATED TRANSPORT AND THE ASSOCIATED "TESTS" SET OUT IN THE TRO?

[4] Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, *In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers (CC Docket No. 01-338); Implementation of the Local Competition Provisions of the Telecommunications Act of 1996 (CC Docket No. 96-98); Deployment of Wireline Services Offering Advanced Telecommunications Capability (CC Docket No. 98-147)*, FCC No. 03-36 (rel. Aug. 21, 2003).

A. Yes. However, before I do, I want to note for the Commission that CompSouth Coalition (CompSouth), of which AT&T is a member, has sponsored the testimony of Mr. Gary J. Ball. Mr. Ball's direct and rebuttal testimony contains comprehensive discussion of the FCC's findings and guidance contained in the TRO related to high capacity loops and dedicated transport. AT&T's view of the TRO is generally consistent with that presented in Mr. Gray's testimony. Therefore, in my testimony I will only provide a summary of the relevant findings and guidance in the TRO.

In the TRO, the FCC determined that incumbent local exchange carriers ("ILECs") must continue to provide CLECs with access to unbundled loops and dedicated transport at the DS1, DS3, and dark fiber capacity levels ("high-capacity loops" and "dedicated transport"). In support of this, the FCC conducted a comprehensive analysis that resulted in the determination that CLECs are impaired without access to high-capacity loops (including DS3 loops at up to two DS3s of capacity per customer location) and dedicated transport (including DS3 transport at up to 12 DS3s of capacity per route) at the national level. In other words, the FCC made a national finding that CLECs are impaired without access to DS1, DS3, and dark fiber high capacity loops (TRO ¶202) and DS1, DS3 and dark fiber dedicated transport (TRO ¶359). As a result, the FCC rules require that competing carriers have access to these types and capacity levels of unbundled high-capacity loops and dedicated transport everywhere unless a state commission finds a lack of impairment as to specific locations and routes.

Recognizing that there may be individual customer locations or transport routes where competitively provisioned high-capacity loops and dedicated transport have

been deployed to such an extent that CLECs may not be deemed to be impaired, the FCC developed a procedure known as the trigger analysis ("triggers"). The two triggers (self-provisioning and wholesale) are intended to give ILECs an opportunity to demonstrate to their respective state commissions that CLECs are not impaired without access to unbundled high-capacity loops or dedicated transport at *specific* customer locations or on *specific* dedicated transport routes for specific capacity levels.

The FCC also provides that ILECs may attempt to demonstrate that no impairment exists for specific loop locations or specific transport routes even though neither the self-provisioning trigger nor the wholesale trigger has been satisfied by showing that there is potential for CLECs to deploy such facilities at specific capacity levels at specific building locations and on specific dedicated transport routes (the "potential deployment" analysis). However, the FCC recognized that there is essentially no likelihood that a CLEC would deploy its own DS1 level facilities, either as loops or transport. Therefore, only DS3 and Dark Fiber facilities are eligible for consideration in connection with ILEC potential deployment claims.

Q. PLEASE DESCRIBE THE LOOP TRIGGERS AND THE KINDS OF FACILITIES THE COMMISSION MUST REVIEW IN APPLYING THEM.

A. The local loop network element is defined as a transmission facility between a distribution frame (or its equivalent) in an incumbent LEC central office and the loop demarcation point at an end-user customer premises, including inside wire owned by the incumbent LEC. The local loop network element includes all features, functions,

and capabilities of such transmission facility. Those features, functions and capabilities include, but are not limited to, dark fiber, attached electronics (except those electronics used for the provisioning of advanced services, such as Digital Subscriber Line Access Multiplexers), and line conditioning. The local loop includes, but is not limited to, DS1, DS3, fiber, and other high-capacity loops.

To be relieved of their obligation to provide local loops as an unbundled network element to a specific customer location, an incumbent LEC must demonstrate, using one of the FCC's specified trigger analyses, that (1) two or more competitive LECs have actually self-provisioned loops to that location at the appropriate capacity level or that (2) two or more competitive LECs are providing wholesale high-capacity loops at the appropriate capacity level at a specific location. In addition, the FCC has held that the wholesale trigger only applies to DS1 and DS3 loops, but not to dark fiber loops. The following table summarizes the Commission's responsibilities under the loop triggers:

LOOP TRIGGER ANALYSIS

The Presence of:	**Trips the Following Loop Triggers and May Establish a Finding of No Impairment @ the Specific Customer Location**		
	DS1	**DS3**	**Dark Fiber**
2 Self Providers @ a specific customer location.		**X**	**X**
2 Wholesale Providers @ a specific customer location.	**X**	**X**	

Q. DO YOU HAVE SIMILAR DEFINITION AND TABLE FOR DEDICATED TRANSPORT?

A Yes. Dedicated interoffice transmission facilities (dedicated transport) are facilities dedicated to a particular customer or carrier that are used to provide dedicated transmission paths between pairs of incumbent LEC central offices or wire centers without the use of any switching. Incumbent LEC transmission facilities include all technically feasible capacity-related services including, but not limited to, DS1, DS3, dark fiber and OCn levels. However, the FCC held that CLECs are not impaired in the absence of access to OCn facilities (provided that dark fiber is available) for dedicated transport, and that CLECs are not impaired without access to DS3 level facilities above a maximum of 12 DS3s of capacity per dedicated transport route.

To be relieved of their obligation to provide DS1, DS3 or dark fiber transport as an unbundled network element on a route between two specified incumbent LEC central offices or wire centers, the incumbent LEC must demonstrate, using the FCC's specified trigger analyses, that (1) three or more competitive LECs have actually self-provisioned dedicated transport at the appropriate capacity levels (less than 12 DS3s) on that route or (2) two or more non-affiliated competitive LECs are providing wholesale dedicated transport services at the appropriate capacity level (less than 12 DS3s) on the specific route. A route is defined as a connection between two wire centers (A and Z) with the connection at both A and Z terminating in a collocation and able to provide transport into or out of each wire center. The following table thus summarizes the Commission's responsibilities under the transport triggers:

TRANSPORT TRIGGER ANALYSIS

The Presence of:	**Trips the Following Transport Triggers and May Establish a Finding of No Impairment on the Specific ILEC CO to ILEC CO Route**		
	DS1	**DS3**	**Dark Fiber**
3 Self Providers on a specific ILEC CO to ILEC CO route and having collocations in each of the COs.		**X**	**X**
2 Wholesale Providers on a specific ILEC CO to ILEC CO route and having collocations in each of the COs.	**X**	**X**	**X**

Q. THE TRO DISCUSSES "DEDICATED TRANSPORT" AND MAKES AND RELATES DEDICATED TRANSPORT TO "ROUTES" CAN YOU SUMMARIZE THIS RELATIONSHIP?

A. Yes. The TRO discusses Dedicated Transport in ¶¶358-418.

The definition of dedicated transport is discussed and clarified in ¶¶365-369. In ¶369 the FCC concludes its discussion as follows, "Accordingly, we limit the dedicated transport network element to those incumbent LEC *transmission facilities* dedicated to a particular customer or carrier that provide telecommunications *between* switches or wire centers owned by incumbent LECs. We conduct our impairment analysis based on this definition of the transport network element." (Emphasis added, citations deleted.) Dedicated transport is concerned with *transmission facilities*, not switching facilities, *between* switches or wire centers owned by an ILEC. A switch is a facility that by definition is not dedicated to a particular customer or carrier, but rather is available for use in establishing on demand connections between any

customer served by the switch and any other customer(s) served by the switch or by another switch(s). I provide additional discussion of the separation of switching for dedicated transport later in my testimony.

The definition of a "route" is discussed and clarified in ¶401.

> "Both triggers we adopt today evaluate transport on a route specific basis. We define a route, for the purposes of these tests, as a *connection* between wire center or switch "A" and wire center or switch "Z." Even if, on the incumbent LEC's network, a transport circuit from "A" to "Z" passes through an intermediate wire center "X," the competitive providers must offer service *connecting* wire centers "A" and "Z," but do not have to mirror the network path if the incumbent LEC through wire center "X." (Emphasis added, citations deleted.)

The diagram provided as Exhibit JMB-R3 depicts both a dedicated transport route that *directly* connects two ILEC wire centers and a route that connects two ILEC wire centers with dedicated transport *indirectly* through an intermediate location. The presence of an intermediate point or points, as shown, along a route between two end-points, so long as the system or fiber strand *remains dedicated* to the exclusive use of one customer or carrier, has no impact on the fact that the route exists. Intermediate points (if there are any) do not have to be the same on the ILEC path and the CLEC path.

The "route" being defined is specifically for the trigger tests associated with *dedicated transport*, an unbundled network element separate from and not inclusive of the switching unbundled network element, and separate from the shared transport element.

Q. IS THE ILEC'S OBLIGATION TO PROVIDE UNBUNDLED DS3 HIGH CAPACITY LOOPS AND DS3 DEDICATED TRANSPORT LIMITED AS A RESULT OF THE TRO?

A. Yes. An ILEC is obligated to provide only 2 DS3 loops to a given customer location for a given CLEC (TRO ¶ 324) and only 12 DS3s of transport on a given route to a given CLEC (TRO ¶ 388). Thus, a carrier having one or more customers at a given location with a combined demand requiring 3 or more DS3s may not obtain more than two DS3s from the ILEC as a UNE, and a carrier that has aggregated demand at a collocation requiring 13 or more DS3s of dedicated transport may not obtain more than 12 DS3s from the ILEC as a UNE.

Q. WHY SHOULD THE COMMISSION BE INTERESTED IN THESE LIMITS?

A. These limits establish where and to what evidence the Commission must look in applying both the trigger tests and potential deployment tests.

Q. PLEASE EXPLAIN.

A. In setting these limits, the FCC has made the determination that CLECs are not impaired in their ability to deploy DS3s for high-capacity loops and dedicated transport at certain quantity levels. Thus the ILEC must demonstrate under the trigger tests that the requisite number of CLECs have deployed DS3s while only providing quantities that are *at or below* the 2 DS3 limit for high-capacity loops and 12 DS3 limit for dedicated transport. Evidence that any number of CLECs have deployed, for example, 4 or more DS3s to a customer location or 13 or more DS3s of dedicated transport between a pair of ILEC central offices does not demonstrate that

any other CLEC is not impaired economically if it needs to build, from scratch, 1 or 2 DS3s to serve a customer location or fewer than 12 DS3s of dedicated transport between a pair of ILEC wire centers. (See Exhibit JMB-R4, AT&T's responses to the Florida Public Service Commission Staff's Interrogatories 16 and 17, filed February 25, 2004.)

For example, under the high-capacity loop self-provisioning triggers test, the ILEC must demonstrate that 2 CLECs have actually constructed facilities that serve only 1 or 2 DS3s of demand at a specific customer location in order to obtain relief from providing unbundled high-capacity loop facilities at those capacity levels to any other CLEC. If the ILEC identifies two CLECs that have built high-capacity loop facilities to a customer location each providing 6 DS3s, such information is not pertinent to the self-deployment trigger and the trigger test has not been met. This is because the FCC determined that CLECs are not impaired in constructing facilities at that (6 DS3) capacity level. Contrary to the ILECs' claims, this makes perfect sense. If complete unbundling relief were granted in such circumstances, it would permanently preclude all CLECs whose business plans and marketing efforts are directed to serving smaller enterprise customers whose demand is at the 1 to 2 DS3 level of capacity from utilizing ILEC unbundled high-capacity loop facilities. Such an outcome is not consistent with the goals of the TRO or the obligations of this Commission to foster the development of competition.[5]

[5] Relief under the wholesale trigger, however, may be available if at least two of the "large" providers at the location meet the requirements for the wholesale triggers, because in such cases the "small" CLP will have multiple options to the ILEC's special access services.

As CompSouth's witness Mr. Gary Ball discusses more comprehensively in his rebuttal testimony, also being filed today, these capacity limits also play a significant role in evaluation of any potential deployment claims made by the ILECs. As discussed by Mr. Ball, in any potential deployment claim at the DS3 capacity level, an ILEC must demonstrate that the competitive providers would earn sufficient revenues relative to their significant fixed and sunk costs of providing two (or fewer) DS3s of traffic for high-capacity loops to a building location or 12 (or fewer) DS3s of traffic for dedicated transport between ILEC wire centers. These are the maximum amount of high-capacity loops and dedicated transport that CLECs may purchase as UNEs under the TRO.

Q. WHAT HAVE BELLSOUTH AND ALLTEL REPORTED ABOUT AT&T?

A. BellSouth has correctly <u>not</u> identified AT&T as being a trigger company for either loops or dedicated transport. To my knowledge, Alltel provided no testimony on these issues, thereby also correctly <u>not</u> identifying AT&T as a trigger company.

Q. ON PAGES 24-25 OF HER DIRECT TESTIMONY MS. PADGETT REPEATS THE BELLSOUTH CLAIM THAT "IT IS REASONABLE TO INFER THAT A CARRIER HAS A 'ROUTE' BETWEEN ANY PAIR OF INCUMBENT LEC WIRE CENTERS IN THE SAME LATA WHERE IT HAS OPERATIONAL COLLOCATION ARRANGEMENTS." IF A FIBER CABLE RUNS BETWEEN TWO COLLOCATIONS OF THE SAME CLEC, IS IT

APPROPRIATE TO CONCLUDE THAT A "ROUTE" HAS BEEN ESTABLISHED AND THAT DEDICATED TRANSPORT IS PROVIDED?

A. No. The mere existence of a fiber cable running past (or even through) two points proves nothing with regard to its use to provide end-to-end direct (non-switched) connectivity between those points. First, the Commission should understand that a fiber cable is not a single continuous transmission path. Rather, a single fiber cable is composed of multiple bundles (sheaths) each of which contains multiple fibers strands. Although a cable route may "run through" both ILEC office A and office B, the two offices may not even be connected to the same fiber, much less to fiber in the same bundle. In fact, most of the fiber sheaths will only pass by the wire center, remaining in the conduit running down the street in front of the building rather than being split off to enter the wire center. In addition, there is no guarantee that all the fibers that are placed from a CLEC's collocation to the main cable are actually spliced to a fiber in the main cable. Once the fiber strands enter the cable vault of the wire center, the incumbent generally provides the connection between the cable vault and the collocation. Frequently, there is a charge applied *per fiber strand* connected. Hence, the CLEC may not opt to connect all strands within a sheath to its collocation. (See Exhibit JMB-R5, AT&T's response to the Florida Public Service Commission Staff's Interrogatory 25, filed February 25, 2004.)

If the two ILEC offices have not been configured to provide termination of the same fiber pairs on the same transmission system, then the CLEC does not (and cannot) have physical connectivity between the two locations unless a grooming and cross-

connection function is provided at a third physical location on the same pairs and system.

AT&T typically connects its on-net collocations, that is, collocations to which it has constructed fiber facilities to its network (i.e., an entrance facility), using two-point rings, where one point is the collocation and the second is the AT&T network location (e.g., an AT&T switching center or point of presence). Accordingly, it is not possible to provide "dedicated transport" because, even though more than one collocation is on the came cable route, the collocations are not on the same fibers. AT&T's practice is shown in Exhibit JMB-R6.

AT&T ring construction practices do not provide for multiple incumbent wire centers on the same ring. In the rare instances that multiple incumbent wire centers exist on the same ring, this condition is likely to be the result of (1) acquiring the fiber network of a company that deployed such configurations or (2) sales force error (e.g., sales personnel making commitments based on an erroneous belief that a building was on AT&T's network when it was not). In any event, the presence of multiple incumbent wire centers on the same ring/transmission system is a rare operational exception to AT&T's network engineering practices. From my discussions with other CLECs, I believe this to be true of most CLEC fiber deployments. However, as I will discuss later, even when multiple incumbent wire centers are on the same ring/transmission system one cannot "assume" that a route between them exists.

Q. WHY WOULD A CLEC PUT DIFFERENT COLLOCATIONS ON THE SAME FIBER CABLE BUT NOT THE SAME FIBER?

A. There are a number of practical reasons. First, the ability to place a collocation on a particular fiber presumes operational readiness of all the collocations on the fiber at essentially the same time the fiber strand/system was activated. Said another way, the entire transmission system can only be activated when the last node is ready. Past experience has shown that delay at one or more sites is frequently experienced.

Delays in collocation readiness or construction impediments at only one location may force the carrier to choose between deferring activation for the entire system or implementing a different network design. Such a delay, in turn, may make the difference between whether or not a large retail customer accepts service from the CLEC. Therefore, the more practical approach is to run the fiber cable into a location (or to the access point just outside the wire center), if possible, and then activate each collocation on its own two-point ring using its own fiber pair(s).[6] This has the advantage of divorcing the timing of the cable construction from the timing of collocation activation or augment.

A second major advantage is that extremely precise projections of the demand accessible at the collocation are not required – just a reasonable assurance that a minimum critical mass will be achieved. After that, capacity needed to provide service can be achieved using the existing capacity of the two-point system (i.e., by adding plug-in modules) or by upgrading the system to higher transmission capacities (e.g., from OC48 to OC192). Should such an upgrade be required, it impacts only the

[6] The term "fiber pair" is used here as a term of convenience. Typically, a protected transmission system utilizes one pair of fibers to transmit traffic in one direction (e.g., a clockwise direction) with a second pair is assigned to provide transmission in the opposite direction (e.g., the counterclockwise direction). This provides for immediate restoration capability in the event of a fiber cut or transmission equipment failure on the active

customers served out of that particular wire center. In contrast, if multiple wire centers were on the same transmission system (i.e., fiber) all the wire centers on that fiber are potentially affected by a reconfiguration.

Q. ISN'T IT TECHNICALLY FEASIBLE FOR A CLEC TO CREATE A CONNECTION IF THE TWO OFFICES ARE ON THE SAME FIBER CABLE?

A. Yes, but there is a significant distinction between what is technically feasible and what is operationally and economically practical. Even though technology may permit a carrier to create a dedicated transport path between two points, the cost of doing so can be substantial, particularly given that the demand between the two endpoints in the incumbent's network will likely be very small. Accordingly, the FCC's trigger analysis properly requires that a "trigger firm" actually be providing service between the identified offices that form a dedicated transport route. As with all facilities construction, a carrier cannot reasonably be expected to incur the costs of providing connections unless it is a rational approach to the serving arrangement and has the prospect to generate revenues sufficient to cover the costs incurred. And it is highly likely that a CLEC's demand for capacity between two ILEC wire locations on its own ring would be too small to justify such an approach.

Q. ONE OF THE "THEMES" IN THE TESTIMONY OF MR. GRAY AND MS. PADGETT OF BELLSOUTH IS THAT A CARRIER HAVING AN OCN

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path. Accordingly four fiber strands terminate on the optical multiplexer but two fiber strands (one in the primary and one in the backup direction) are required for the entire "circumference" of the ring.

FACILITY IS "OPERATIONALLY READY" TO PROVIDE LOOPS AND/OR TRANSPORT AT THE DS3 AND DS1 LEVELS. IN EFFECT, BELLSOUTH EQUATES OCN FACILITIES AS BEING DS3 AND/OR DS1 FACILITIES. DO YOU AGREE?

A. No. BellSouth's witnesses agree that there is additional, unique equipment that must exist for dedicated DS3s and DS1s to exist on an OCn facility. But they then go on to attempt to trivialize this need. Mr. Gray does this in two ways. On page 4 of his direct testimony he states that such equipment components "are relatively inexpensive, are widely available and can be quickly installed." Second, in his exhibits (AWG-2 and AWG-5), while admitting that there are two ends to each dedicated loop or transport route, he depicts only one end in a manner that over simplifies reality.

While there are a number of vendors that manufacture the required equipment components, they are not free, cannot be procured at the corner electronics store and are not self-installing. Each application to "channelize" an OCn facility to either a DS3 or DS1 level requires design, engineering, procurement, and installation. Where the installation is to occur in an ILEC wire center, it must be performed by installers certified by the ILEC and coordinated with the ILEC under the security requirements that they have imposed on CLECs.

In Exhibit JMB-R7, I have replicated portions of Exhibits AWG-2 and AWG-5 and then combined them in ways that better depict the full requirements for channelization. Without the full complement of specific DS3 and DS1 equipment at

both ends of either a loop arrangement or a transport arrangement, the exchange of DS3 and DS1 signals is simply not possible.

In addition, to be operationally ready to provide or offer wholesale DS3 and DS1 services, a CLEC must develop and invest in Operations Support Systems, methods and procedures, and a sales and marketing effort, all of which are conveniently ignored in the BellSouth testimony. CompSouth's witness Gary Ball provides additional detail on this aspect of operational readiness in his rebuttal testimony that is also being filed today.

Q. ANOTHER THEME IN BELLSOUTH'S TESTIMONY IS THAT THE FACT THAT THERE IS LIT FIBER MEANS THAT THERE IS AVAILABLE DARK FIBER. DO YOU AGREE?

A. No. Mr. Gray makes the statement that "CLECs typically deploy 144 fiber strands or more when extending a cable to large commercial buildings or ILEC wire centers." (Gray, Direct, page 11, lines 22-24) Ms. Padgett states "our billing records indicate that most CLECs that pulled fiber into BellSouth's wire centers requested 2 cables of 12-24 strands each, leaving plenty of spare strands to wholesale." (Padgett, Direct, page 31, lines 10-12). None of these statements actually demonstrates that there is any available dark fiber on any specific route, or to any specific building.

Mr. Gray's and Ms. Padgett's testimony do, however, help to illustrate some of the problem. If a physical fiber ring contains, as Mr. Gray states, 144 strands, and if at every wire center it passes, the CLEC pulls 2 cables of 24 strands each (48 strands) into the building, as Ms. Padgett states, something has to give. In actuality, not all

strands pulled into a building (either customer location or wire center) are in fact connected to the ring. The connection between the ring and any building is commonly called a "lateral." While a CLEC may build its lateral with, for example, 24 fibers, only the fibers necessary to deliver service are spliced into the ring. Once a ring fiber has been spliced to a lateral it is either "lit" or "dark," but most commonly "lit." If a ring fiber has not been spliced to a lateral or "lit" directly when it passed through a collocation or a building directly on the ring, it is simply "unavailable", not dark. Un-spliced fibers, left "dead" are not available dark fibers. (See Exhibit JMB-R5, AT&T's response to the Florida Public Service Commission Staff's Interrogatory 25, filed February 25, 2004.)

Q. ON PAGE 26 OF HER DIRECT TESTIMONY MS. PADGETT CHALLENGES THE CONCEPT THAT THE TRO REQUIRES THAT A CLEC MUST BE PROVIDING TRANSPORT SERVICE BETWEEN THE TWO ILEC WIRE CENTERS FOR A ROUTE TO BE COUNTED. PLEASE EXPLAIN WHY MS. PADGETT'S INTERPRETATION OF THE TRO IS INCORRECT.

A. It is only logical that the self-provisioning test must include only routes over which the named CLEC is actually providing service to itself. The TRO consists of 485 pages of commentary, including facts, analysis, discussions, findings and guidance to the industry and state regulators, and only 35 pages of rules, in Appendix B. Ms. Padgett's testimony focuses narrowly and exclusively upon the rule, without regard for the content of the text of the order. While I am not an attorney, it is my

understanding that rules are to be applied using the associated text from the body of the order for context and guidance. As a layperson, such a process only makes sense – otherwise, why bother publishing the 485 pages.

The body of the order contains multiple references supporting the proposition that the FCC intended that its self-provisioning test must include only routes over which the named CLEC is actually providing transport to itself.

> Dedicated interoffice transmission facilities (transport) are facilities dedicated to a particular customer or competitive carrier that it uses for transmission among incumbent LEC central offices and tandem offices. Competing carriers generally use interoffice transport as a means to aggregate end-user traffic to achieve economies of scale. They do so by using dedicated transport to carry traffic from their end users' loops, often terminating at incumbent LEC central offices, through other central offices to a point of aggregation. (TRO ¶ 361, emphasis added, citations deleted.)
>
> The first trigger is designed to identify routes along which the ability to self-provision is evident based on the existence of several competitive transport facilities. (TRO ¶ 400, emphasis added.)
>
> We also expect that the triggers we adopt will produce desirable incentives for competing carriers to build out their transport networks. As a policy matter, we find that unbundling can create a disincentive for competitive LECs to deploy transport. After incurring substantial fixed and sunk costs, a carrier that has deployed transport facilities must continue to compete against carriers able to obtain unbundled transport without incurring any large costs. Moreover, the triggers will benefit competing carriers that invest or have invested in their own transport facilities by attracting additional wholesale customers to mitigate the costs of deployment if their facilities trigger a finding of no impairment that eliminates unbundling. (TRO ¶ 404)
>
> As noted above, we give substantial weight to actual *commercial* deployment of an element by competing carriers. Therefore, our trigger identifies existing examples of deployment by multiple competitive LECs on a route-specific basis. (TRO ¶ 405, emphasis added, citations deleted.)
>
> Each counted self-provisioned facility along a route must be operationally ready to provide transport into or out of an incumbent LEC central office. TRO ¶ 406, emphasis added.)

Each of the FCC's concepts, guidance, or anticipated incentives discussed in these paragraphs would be devoid of meaning if, as Ms. Padgett suggests, CLECs do not have to be actually using self-provided transport for the trigger to be met.

Q. WHY WOULD A CLEC NOT BE IN THE BUSINESS OF PROVIDING THE EQUIVALENT OF DEDICATED TRANSPORT ON A RETAIL BASIS?

A. The practical purpose of connecting one ILEC office to another (as opposed to connecting each office to the CLEC's network) is either (1) to provide a dedicated (private line) retail service between two customer premises, one of which is served by a loop from office A and the other served by a loop from office B, or (2) to provide wholesale service to other carriers between those two endpoints. Only the first situation would result in a condition appropriate for consideration in a self-provisioning trigger, and even then only if the total demand were less than 12 DS3s worth of capacity (the only maximum capacity that can be obtained as a UNE).

Using such a configuration for retail service strains credibility. A customer that might have substantial demand between two ILEC wire centers would also (most likely) have even more traffic running to locations well beyond those two wire centers. That is, a customer is unlikely to have multi-megabits of transmission between two points in close proximity unless those two points are also connected to many other locations outside the local area. Given that such a hypothetical customer would be a very large enterprise customer, the CLEC would likely also build the loop out to the customer location. Accordingly, the CLEC would not be using or providing "dedicated transport" in that case, because the end-points of the facility are

two customer premises, not two incumbent wire centers. (AT&T's private line product and design specifications require that at least one end of the service be over an AT&T self-provided loop.)

Furthermore, the interconnection of the segments (loop and transport) would not likely occur in the incumbent's offices but would instead be made in a building where the CLEC has unrestricted access, typically one owned (or leased) by the CLEC. Again, such a configuration would not connect two ILEC wire centers and therefore could not even be considered a dedicated transport configuration.

Q. WHY WOULD THE CLEC PROVIDING A PRIVATE LINE SERVICE PREFER TO CONNECT THE SELF-PROVIDED LOOP AND INTER-PREMISES SEGMENT AT A LOCATION OTHER THAN THE TRADITIONAL SERVING WIRE CENTER (OF THE INCUMBENT)?

A. The self-constructed loop facility would generally run back to the CLEC's network node, rather than to ILEC collocation, and then be connected to other fiber as the particular customer design warrants. This affords the CLEC a better ability to control service quality, because its nodes are generally manned round-the-clock, or at least are generally accessible. In addition, fewer potential points of failure (splice points and add/drop multiplexers) are generally involved. Furthermore, CLECs generally employ collocation to obtain interconnection with the incumbent LEC's network and to gain access to UNEs. In this instance, neither is involved. As a result, a CLEC would not ordinarily use costly collocations to create the connection, particularly one

that connects facilities that it self-provides entirely from the customer's premises to its network.

Q. ARE THERE OTHER REASONS WHY A CLEC WOULD NOT PROVIDE "DEDICATED TRANSPORT" DESPITE HAVING A CABLE BETWEEN TWO INCUMBENT OFFICES?

A. Yes. Equally important from an operational/network perspective, is the fact that transmission capacity on multi-node fiber ring is "zero sum." This means that if capacity is "drained off" to provide direct termination of traffic between two points on the ring (i.e., to provide dedicated transport between two ILEC offices), it reduces the CLEC's capacity to terminate traffic at other points on the same ring. This occurs because all traffic on a protected ring travels around the entire ring on a transmission system that has fixed capacity.[7]

A simple hypothetical example can help illustrate the constraint. (This example violates AT&T ring design policy.) Page 1 of Exhibit JMB-R8 depicts an OC48 system on a hypothetical CLEC ring that passes through two ILEC central offices and a CLEC node associated with the CLEC's switch. In this example, all traffic from ILEC office A is routed directly to the CLEC's node/switch and all traffic from ILEC office B is also routed directly to the CLEC's node/switch, and there are no connections between ILEC offices A and B. Each collocation uses 24 of the 48 DS3s. The entire capacity of the system is utilized in the above example. I have

[7] This characterization is a simplification. In actuality, it is more likely that the transmission segment will be active in only one direction. In the event that a transmission failure is detected, the system will automatically activate a transmission path in the opposite direction.

labeled the DS3s being carried on the ring between the nodes for the "primary" (clockwise transmission). If the "backup" (counter-clockwise transmission) activated, the numbers of DS3s would remain the same with the A, B and N labels reversing position.

If the CLEC were to reconfigure its ring to establish a transport route for traffic between ILEC offices A and B, the capacity available to permit ingress and egress at the CLEC's network (i.e., A to N and B to N) is reduced. If we assume 6 DS3s are required between A and B, the carrier's revised network configuration is shown on page 2 of Exhibit JMB-R8. Now, only 21 DS3s are available to carry traffic from each of the collocations to the switch.

Thus, the direct routing of traffic between intermediate points on a ring will be the rare exception rather than the rule, because it "steals" capacity from the mainstream purpose of the CLEC's self-provided facilities – to connect retail customers to its network.

Q. COULD THE SUB-OPTIMIZATION YOU DESCRIBED ABOVE BE EFFECTIVELY ADDRESSED BY MAKING A CONNECTION BETWEEN THE TWO INCUMBENT OFFICES AT THE CLEC'S NODE?

A. No, not without the insertion of additional grooming functionality. This grooming capability is provided through a device such as a Digital Cross-connection System (DCS). A DCS is not an inexpensive device and itself consumes floor space and power resources. In fact, in the example discussed above, for the 6 A to B DS3's to become operational there would have to be additional equipment installed at A, B and

N. Nevertheless, the Commission must keep in mind that technical feasibility is not sufficient evidence to conclude that there has been actual provisioning of dedicated transport.

Q. ON PAGES 22 TO 24 OF HER DIRECT TESTIMONY MS. PADGETT CLAIMS THAT UNDER THE TRO DEDICATED TRANSPORT INCLUDES SWITCHING. IS THIS CORRECT?

A. No. Nothing in the TRO changes the traditional separation of "dedicated" transport, which has never included switching, from "shared" or "common" transport which does, and in fact, can only be accessed by the use of switching.

The FCC makes it clear that the definition of dedicated transport is concerned with connections between end points without any inter-positioning of switching.

> Accordingly, we *limit* the dedicated transport network element to those incumbent LEC transmission facilities *dedicated* to a particular customer or carrier that provide telecommunications *between* switches or wire centers owned by incumbent LECs.
> (TRO 369, emphasis added.)

The many functions of the switching element are enumerated in the TRO at ¶433; serving as a portion of a transmission path for dedicated transport is not listed. The scope and function of shared transport and the fact that it is inseparable from the switching element is discussed at ¶¶533-534. ¶7, at pages 11 and 12 of the TRO, provides and contrasts definitions of dedicated transport and shared transport including the hardwired linkage between shared transport and switching that does not exist for dedicated transport.

BellSouth's sister ILEC, SBC, has no problem understanding this. In testimony filed before the California Public Utilities Commission on November 20, 2003, Mr. Scott J. Alexander provided the following definition of dedicated transport.

> Dedicated transport facilities connect two points within a communications network, so that information can be transmitted between those two points. "Dedicated" transport means all or part of the facility is dedicated to a particular carrier or use and that there is no switching interposed along the transport route.
> (Emphasis added – testimony in dockets R. 95-04-043 and I. 95-04-044, November 20, 2003) (See Exhibit JMB-R9)

Ms. Padgett's testimony on pages 19 and 20 of her direct also incorrectly asserts that the CLECs have excluded routes between two end points that might happen to pass through other points from our "interpretation" of a route. Ms. Padgett is simply wrong. Dedicated transport does not include switching and the CLEC's testimony does not state that *diverse* routing negates the fact that two end points connected using dedicated transport constitute a route.

Ms. Padgett is confused about the meanings of the terms "direct" and "indirect" and improperly equates "indirect" with "switching". Using her Exhibit SWP-15, Situation A, there are two examples of "direct" routes – Route CO1-CO2, and Route CO1-CO4, and one of an "indirect" – Route CO1-CO3, which passes near or through CO2 without being terminated (or switched) there. There is also a third ILEC direct route – Route CO3-CO4 not being used by any CLECs.

If we assume Route CO1-CO3 is switched at CO2, we can quickly understand why dedicated transport does not use switching as a practical matter. First assume that the route contains a single DS3. When it arrives at CO2 the DS3 must first be "stepped" down to 28 DS1s. Second, the 28 DS1s must be terminated to the switch where they

will consume 672 switch ports. Third, 672 full-time, "always on" paths across the switch must be activated in the switch – 672 paths that can never again be used to switch any other customers traffic. Fourth, 672 more switch ports (now a total of 1344) are needed to exit the switch on 28 new DS1s. Fifth, the 28 DS1s must be "stepped up" to the DS3 level to continue on to CO1 or CO3. If instead, the route consisted of an OC48, the number of switch ports required becomes 64,512 and the number of full-time, "always on" paths across the switch becomes 32,256. Dedicated transport does not include switching and never has in my 34 years of telecommunications experience.

Mr. Ball's rebuttal testimony discussing the FCC's use of the term switch in the rule (but not in the text of the order at ¶ 401 when defining a route) is exactly on target. The FCC was envisioning those circumstances in which the term switch is a substitute for the terms, wire center, central office, or switching office.

Q. DOES MS. PADGETT'S EXHIBIT SWP-15 AND HER ASSOCIATED TESTIMONY ON PAGE 22 TO 23 OF HER DIRECT SUPPORT HER CLAIM THAT ENTRANCE FACILITIES SHOULD BE COUNTED AS TRANSPORT ROUTES?

A. No. All Ms. Padgett has done is demonstrate the effect of the FCC definitional change. Clearly, BellSouth does not appear to like the change, but the FCC states specifically that it knew exactly what it was doing and did it for a reason:

> Our determination here effectively eliminates "entrance facilities" as UNEs and, therefore, moots the Commission's *Fourth Further NPRM* insofar as it proposes limitations on obtaining entrance facilities as UNEs. *UNE Remand Order*, 15 FCC Rcd at 3914-15, paras. 492-96 (setting forth the *Fourth Further*

> *NPRM*). We note that the terms of the *Fourth Further NPRM* were expanded to include unbundled loop/transport combinations in addition to entrance facilities. *See generally Supplemental Order*, 15 FCC Rcd 1760; *Supplemental Clarification Order*, 15 FCC Rcd 9587. We address issues related to unbundled loop/transport combinations *infra* Part VII.A. (TRO footnote 1116)

In her testimony and exhibit Ms. Padgett depicts the self-provisioning of backhaul by a CLEC, yet she attempts to close her misguided argument with a citation from the TRO only applicable to wholesale situations.

Q. PLEASE SUMMARIZE THE KEY POINTS OF PART B OF YOUR REBUTTAL TESTIMONY.

A. AT&T is not a wholesale provider of either high capacity loops or dedicated transport. AT&T is not a self-provider of dedicated transport. BellSouth's conclusions that OCn facilities are the equivalent of DS3 and DS1 facilities, that dark fiber must exist because there is lit fiber, and that dedicated transport routes can include switching are incorrect. BellSouth has failed to provide the evidentiary demonstration required by the FCC in the TRO for relief of its obligations to provide high-capacity loops and dedicated transport as UNEs.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, at this time.

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

REVIEW OF FEDERAL COMMUNICATIONS	)	
COMMISSION'S TRIENNIAL REVIEW ORDER	)	CASE NO.
REGARDING UNBUNDLING REQUIREMENTS	)	2003-00379
FOR INDIVIDUAL NETWORK ELEMENTS	)	

AT&T'S OBJECTIONS AND RESPONSES TO BELLSOUTH'S FIRST SET OF INTERROGATORIES (1-83)

CONFIDENTIAL VERSION

AT&T Communications of the South Central States, LLC (hereinafter "AT&T"), pursuant to the Order Establishing Docket, Procedure and Schedule entered by the Kentucky Public Service Commission (hereinafter "Commission") and Kentucky Rules of Practice and Procedure, hereby submits the following objections, both general and specific and the following Responses to BellSouth Telecommunications, Inc.'s (hereinafter "BellSouth") First Set of Interrogatories (Nos. 1-83) to AT&T, served on October 10, 2003. Should additional responsive information be discovered at any time prior to hearing, AT&T reserves the right to supplement, revise, and/or modify these Responses.

OVERVIEW

REQUEST: BellSouth First Set of Interrogatories

DATED: October 10, 2003

Interrogatory 1: Identify each switch owned by Company that Company uses to provide a qualifying service anywhere in Kentucky, irrespective of whether the switch itself is located in the State and regardless of the type of switch (e.g., circuit switch, packet switch, soft switch, host switch, remote switch).

Response: To the extent that the definitions of "qualifying service" and "non-qualifying service" as defined by BellSouth in BellSouth's First Set of Interrogatories to AT&T are different than the definitions of "qualifying" and "non-qualifying" service as defined in 47 C.F.R. § 51.5, this interrogatory is vague. Specifically, 47 C.F.R. § 51.5 defines a "qualifying service" as "a telecommunications service that competes with a telecommunications service that has been traditionally the exclusive or primary domain of incumbent local exchange carriers ("ILECs"), including, but not limited to, local exchange service, such as plain old telephone service ("POTS"), and access services, such as digital subscriber line services and high capacity circuits." "Non-qualifying services" are defined as services that are "not qualifying service[s]." Id. Subject to the foregoing, and without waiving any objection, AT&T will construe the terms contained in this interrogatory, and all other interrogatories, in accordance with 47 C.F.R. § 51.5 and applicable law and consider all traditional local telecommunications service as a "qualifying" service and all traditional long distance service as "non-qualifying" service.

Subject to the foregoing, and consistent with AT&T's Responses to BellSouth's Interrogatories filed in other states, see Confidential Attachments 1a and 1b. These attachments provide information on two categories of switches used (and owned) by AT&T. The first category consists of "Class 5" switches. AT&T has no switches of this type in Kentucky or used to provide service in Kentucky.

The second category consists of switches used (and owned) by AT&T to provide AT&T Digital Link Service ("ADL") to enterprise using "Class 4" and "Class 5 edge" long-distance switches. ADL is not a stand-alone local product but rather one that allows large enterprise AT&T long distance customers to add

local voice traffic to their dedicated facilities that handle voice and data transmission. This permits customers to maximize efficiency by using the same trunks for local, intraLATA, long distance and international calls. Customers that subscribe to ADL service use a DS1 or higher level facility and must also employ sophisticated customer premises equipment on their premises. The switches are not capable of providing service to mass market customers because they do not have the necessary connectivity (i.e., line-side analog ports), functionality (e.g., vertical features like call waiting and call forwarding), and network interconnection, including connection to Public Safety Answering Points. AT&T does not use unbundled network elements to provide ADL service.

The ADL capable (enterprise) switches identified in Attachment 1b are identified by their toll switch CLLI codes, which end in a "T". In the LERG these same switches appear using a psuedo CLLI code ending in "DS_" because the LERG will not accept the "T" code for a switch identified as having "end office functions" and having a "LRN".

The "Class 5 edge" long distance switches are either Lucent 5ESS or Nortel DMS switches. Both of these switch types are common in ILEC local networks. However, the switches used in the ILEC network to provide local services and the edge long distance switches in AT&T's network perform totally different functions.

Converting the edge switches to provide local services would require extensive hardware modifications, software modifications, and E911 Connectivity, as well as supporting OSS modifications and connectivity. As a practical matter, the modifications required preclude conversion of these switches.

For Example: The 5ESS and DMS would need to be completely rebuilt/retrofitted to support local services. Only the basic 5ESS and DMS platform (equipment racks, containers/cabinets, and some switch modules) could be reused. Modifications would include, but not limited to the following:

- OSS modifications (including loading of databases) and Connectivity to support Fault, Configuration, Account, Performance, and Security (FCAPS) Management, and other Operations, Administration, Maintenance, and Provisioning (OAM&P) processes

(e.g., LIDB and ISCP).

- Software and Switch Memory Upgrades (and additional RTU Licenses) to support the Vertical Features required to provide local service.
- Line Side Peripheral Hardware Upgrades to support local services.
- E911 Connectivity and Support.
- AIN support (software and connectivity) to support IN Triggers.
- Announcement System (Hardware, Software, and Transport Facilities).
- 105 Test Line Responder Units (Hardware & Software)
- Test Buss Control Unit (TBCU) to support MLT type loop testing functions (Hardware)
- Additional Facilities and Interfaces (Hardware) required for DCS and SONET Connectivity to the Network.
- Building of ODD (Office Dependent Data) which is unique to each switch and relates to translations (lines) and parameters (equipment) which consists of information related to switch owner (line, trunk, routing, charging, equal access, BRCS) and/or the office equipment (quantity, configuration, equipage). This makes up the office database.

Provided by: Jay Bradbury

2-13-2001

65

003489

BEFORE THE KENTUCKY PUBLIC SERVICE COMMISSION

DIRECT TESTIMONY OF GREGORY R. FOLLENSBEE

ON BEHALF OF

AT&T COMMUNICATIONS OF THE SOUTH CENTRAL STATES, INC.

AND TCG OHIO

DOCKET NO. 2000-465

FEBRUARY 6, 2001

KPSC Case No. 2003-00379
Rebuttal Testimony of
Jay M. Bradbury
Exhibit: JMB-R2
March 31, 2004

space is exhausted would not enjoy the same level of local exchange competition as customers in unaffected areas.

5. AT&T's solution is consistent with law and regulation.

The FCC has made clear that ILECs do not have the right to determine where CLECS must interconnect to pick up ILEC traffic. CLECs can interconnect at any technically feasible point, and can select a point that is most efficient to lower costs. AT&T's proposal clearly meets these requirements.

ISSUE 9: SHOULD AT&T BE PERMITTED TO CHARGE TANDEM RATE ELEMENTS WHEN ITS SWITCH SERVES A GEOGRAPHIC AREA COMPARABLE TO THAT SERVED BY BELLSOUTH'S TANDEM SWITCH?

Q. WHAT DO THE FCC REGULATIONS PROVIDE ABOUT CLEC SWITCHES AND TANDEM RATES?

A. The FCC recognizes that there is parity between a competitive carrier's end office switch and an ILEC tandem switch. The FCC regulations, 47 C.F.R. § 51.711 (a)(3), provide:

> Where the switch of a carrier other than an incumbent LEC serves a geographic area comparable to the area served by the incumbent LEC's tandem switch, the appropriate rate for the carrier other than an incumbent LEC is the incumbent LEC's tandem interconnection rate.

Q. HAS THE FCC PROVIDED ANY ADDITIONAL GUIDANCE REGARDING THE ESTABLISHMENT OF TRANSPORT AND TERMINATION RATES?

A. Yes, it has. In the Local Competition Order, the FCC stated:

> We find that the "additional costs" incurred by a LEC when transporting and terminating a call that originated on a competing carrier's network are likely to vary depending on whether tandem switching is involved. We, therefore, conclude that states may establish transport and termination rates in the arbitration process that vary according to whether the traffic is routed through a tandem switch or directly to the end-office switch. In such event, states shall also consider whether new technologies (*e.g.*, fiber ring or wireless networks) perform functions similar to those performed by an incumbent LEC's tandem switch and thus, whether some or all calls terminating on the new entrant's network should be priced the same as the sum of transport and termination via the incumbent LEC's tandem switch. Where the interconnecting carrier's switch serves a geographic area comparable to that served by the incumbent LEC's tandem switch, the appropriate proxy for the interconnecting carrier's additional costs is the LEC tandem interconnection rate.[34]

Q. DO AT&T'S SWITCHES IN KENTUCKY COVER A GEOGRAPHIC AREA COMPARABLE TO THE AREA COVERED BY BELLSOUTH SWITCHES?

A. Yes. AT&T offers local exchange service in Kentucky via 4ESS switches, which function primarily as long distance switches, and 5ESS switches, which act as adjuncts to the 4ESS switches. AT&T has the ability to connect

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[34] FCC Local Competition Order at ¶ 1090 (emphasis added).

virtually any qualifying local exchange customer in Kentucky to one of these switches through AT&T's dedicated access services.

AT&T requests that the Commission order BellSouth to pay AT&T BellSouth's tandem interconnection rate for the termination of local traffic at any AT&T switch. AT&T is justified in its request because the geographic area covered by each switch is comparable to the area covered by BellSouth's tandem switches.

Q. HAVE YOU PREPARED ANY MATERIALS THAT WILL ASSIST THE COMMISSION IN DETERMINING THE GEOGRAPHIC COVERAGE OF AT&T'S SWITCHES SERVING KENTUCKY?

A. To assist the Commission in understanding this issue, I have prepared two maps that are marked as Exhibits GRF-6a, 6b and 6c. Exhibits GRF-6a, 6b and 6c contain both color transparency maps and color copies of the same maps. The transparent maps are supplied so that the reader can "overlay" the maps and compare the geographic area served by AT&T and TCG switches and BellSouth switches.

Exhibits GRF-6a[35] and 6b provide the number of switches AT&T and TCG currently operate in Kentucky on a LATA by LATA basis. It is important to note that in some cases, the AT&T switch serving a LATA is not physically located in the LATA.

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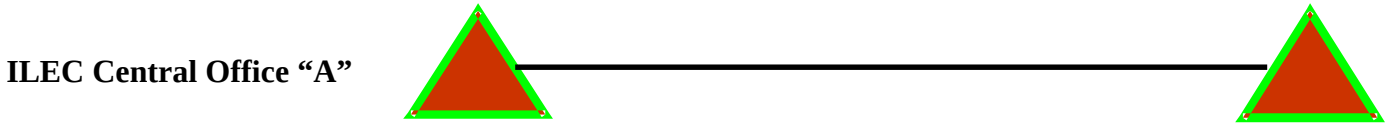
[35] On the AT&T maps, green shading depicts the areas covered by AT&T's switches.

Direct dedicated transport route between ILEC wire center “A” and “Z”

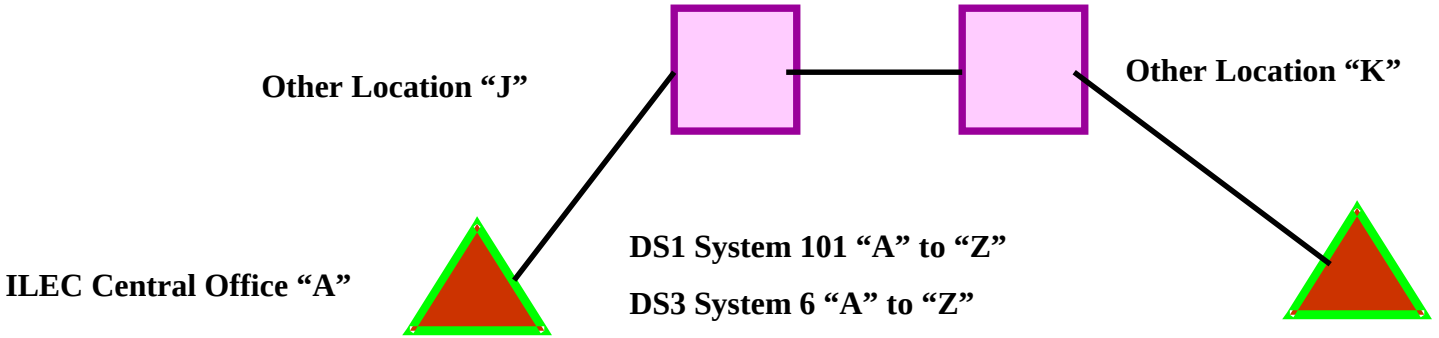


DS1 System 101 “A” to “Z”

DS3 System 6 “A” to “Z”

Fiber Strand 32 terminated at “A” and “Z”

Indirect dedicated transport route between ILEC wire center “A” and “Z”



DS1 System 101 “A” to “Z”

DS3 System 6 “A” to “Z”

Fiber Strand 32 terminated at “A” and “Z”

KPSC Case No. 2003-00379
Rebuttal Testimony of Jay M. Bradbury
Exhibit: JMB-R3
March 31, 2004

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Implementation of requirements arising from Federal Communications Commission triennial UNE review: Local Circuit Switching for Mass Market Customers.	)))))	Docket No. 030852-TP Filed: February 25, 2004

AT&T'S RESPONSES TO STAFF'S SECOND SET OF INTERROGATORIES (15-44)

AT&T Communications of the Southern States, LLC ("AT&T") pursuant to Rule 28.106-206, Florida Administrative Code, Rule 1.340, Florida Rules of Civil Procedure and Order No. PSC-03-1055-PCO-TP, issued in this docket on September 22, 2003, hereby files its Responses to Florida Public Service Commission Staff's Second Interrogatories (15-44).

REQUEST: Staff's Second Set of Interrogatories

DATED: February 6, 2004

Interrogatory 16: For purposes of the following request, please refer to the rebuttal testimony of AT&T witness Bradbury, page 14, lines 5-8. Please discuss and justify, using specific cites from the TRO, your position that if a competitive providers loop(s) at a particular location were provisioned to carry in excess of 2 DS3s, then the providers loop(s) at that location could not count toward the self-provisioning trigger.

Response: There are two bases for this position. First, the TRO is explicit that the self-provisioning trigger must be analyzed at the relevant capacity level. Thus, for self-provisioning to be relevant, it must be of "the specific type of high capacity loop" in question. ¶ 328 The self provisioning trigger is satisfied only by "facilities at the relevant loop capacity level." ¶ 329. The self provisioning trigger requires evidence of "facilities in place serving customers at that location over the relevant loop capacity level." ¶ 332. Facilities which provide loop service at 6 DS3s, which is equivalent to OC3, are at a different capacity level than that in question under the DS3 loop self-provisioning trigger. The deployment of OCn loops, as to which the FCC found there was no impairment, ¶ 315, is not relevant to the self-provisioning trigger for DS3 loops, as to which the FCC found there is impairment, ¶ 320, because the two are at different capacity levels. If OC6 deployment were relevant to the DS3 self-provisioned loops trigger, the FCC would have said so, and would not have repeatedly and explicitly emphasized that the analysis must be conducted at the relevant capacity level. Indeed, as the FCC explained in footnote 957, where DS-1 loop self-deployment is only feasible because of prior OCn or 3 DS3 self-deployment at a customer location, the DS-1 deployment is not relevant and does not impact the FCC's DS1 impairment finding. (There is no DS1 self-provisioning trigger test.)

> It is important to note, however, that this evidence of self-provisioning has been possible where that same carrier is already self-provisioning OCn or a 3 DS# level of loop capacity to that same customer location. *Thus, this evidence does not support the ability to self-deploy stand-alone DS1 capacity loops nor does it impact our DS1 impairment finding*. (Emphasis added).

A second basis of this position is that if complete unbundling relief is granted upon a finding that the self-provisioning triggers are met for loops at a particular location, then other CLECs would loose the right to obtain UNE loops at the 1-2 DS3 capacity level at that location. Such a result would not be consistent with the rationale of the TRO, which is to unbundle network elements in those contexts where CLECs are impaired at the relevant capacity level. See, e.g., TRO para. 7. ("A requesting carrier is impaired when lack of access to an incumbent LEC network element poses a barrier or barriers to entry, including operational and economic barriers, that are likely to make entry into a market uneconomic.") That CLECs A and B may have self-provisioned OC3 capacity loops channelized to 3 DS3s of loop capacity at a particular location does not make it economically or operationally feasible for CLEC C to self-deploy 1 or 2 DS3s of loop capacity at the same location. (See TRO para. 320 for discussion of of self-deployment at the 1-2 DS3 level). Therefore, to avoid depriving an impaired CLEC C of access to unbundled loops, the self-provisioning of CLECs A and B with OCn deployment should not operate to satisfy the trigger as to CLEC C. The rationale of this approach is consistent with and is illustrated by the TRO's approach to the scope of unbundling relief where the wholesale triggers are satisfied. As explained at TRO paragraphs 391-393 pertaining to the wholesale trigger for DS1 transport:

> DS1 transport is used by competing carriers to expand into new service areas and may be used as a transition mechanism for carriers just entering an area, or for carriers serving a customer in an area only as a supplement to its primary operations in another area. In these situations, carriers are able to enter new markets to begin accumulating traffic, but do not have sufficient traffic to self-deploy. Under our analysis, new market entrants will have the ability to access unbundled DS1 transport, or access DS1 transport from multiple competing carriers.

Thus, where the wholesale trigger is satisfied, the new market entrant can obtain transport from multiple competing carriers, and can enter the market even though it is not economically feasible to self-deploy. In this context, the UNE transport is no longer necessary as CLECs with smaller demand can obtain the same thing - economical transport - at competitive market prices. This facilitates and promotes the overriding policy of market opening and competition. The same economic rationale applies with equal force to new market entrants or smaller CLECs in the

context of loops. Thus, even if two CLECs are each providing OC3 capacity loops channelized to DS3s of loop capacity at a particular location, smaller, new market entrants should retain the right to UNE loops because such self-provisioning, in contrast to the competitive wholesale facilities, does not show that new entrants can obtain economical loops from multiple competing carriers. In order to facilitate market entry by CLECs who lack sufficient demand to economically self-deploy, UNE loops should remain available to CLEC C even though CLECs A and B have each self-deployed, for example, 3 DS3s of loop capacity via OCn facilities. This is necessary to carry out the overriding rationale of the impairment analysis. As the FCC stated in para. 197 of the TRO, the purpose of the capacity level analysis is to enable the FCC to "more precisely calibrate our rules to ensure that competitive LECs only gain access to unbundled loops where they are impaired under the standard we adopt above, i.e., where they cannot economically self-provision loops and competitive alternatives do not exist."

REQUEST: Staff's Second Set of Interrogatories

DATED: February 6, 2004

Interrogatory 17: For purposes of the following request, please refer to Bradbury rebuttal, page 16, lines 4- 10. Please discuss and justify, using specific cites from the TRO, your position that the FCC made a "national finding that CLECs are impaired for transport below 13 DS3s per CLEC and per route." Where in the TRO did the FCC state specifically that it made a national finding of no impairment for transport below 13 DS3s per CLEC and per route?

Response: In paragraph 359 of the TRO, the FCC found that CLECs are not impaired without access to unbundled OCn dedicated transport services, but are impaired for standalone DS3 level dedicated transport services. In paragraph 388, the FCC determined that CLECs with a demand of more than 12 DS3s on a given route could overcome the national finding of impairment for DS3s based upon the sufficient revenue available from that quantity, essentially treating that route as if it were an OCn level route. The FCC reaffirmed its finding in paragraph 389. For routes in which a CLEC is providing less than 13 DS3s, the national finding of impairment applies.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Implementation of requirements arising from Federal Communications Commission triennial UNE review: Local Circuit Switching for Mass Market Customers.	)))))	Docket No. 030852-TP Filed: February 25, 2004

AT&T'S RESPONSES TO STAFF'S SECOND SET OF INTERROGATORIES (15-44)

AT&T Communications of the Southern States, LLC ("AT&T") pursuant to Rule 28.106-206, Florida Administrative Code, Rule 1.340, Florida Rules of Civil Procedure and Order No. PSC-03-1055-PCO-TP, issued in this docket on September 22, 2003, hereby files its Responses to Florida Public Service Commission Staff's Second Interrogatories (15-44).

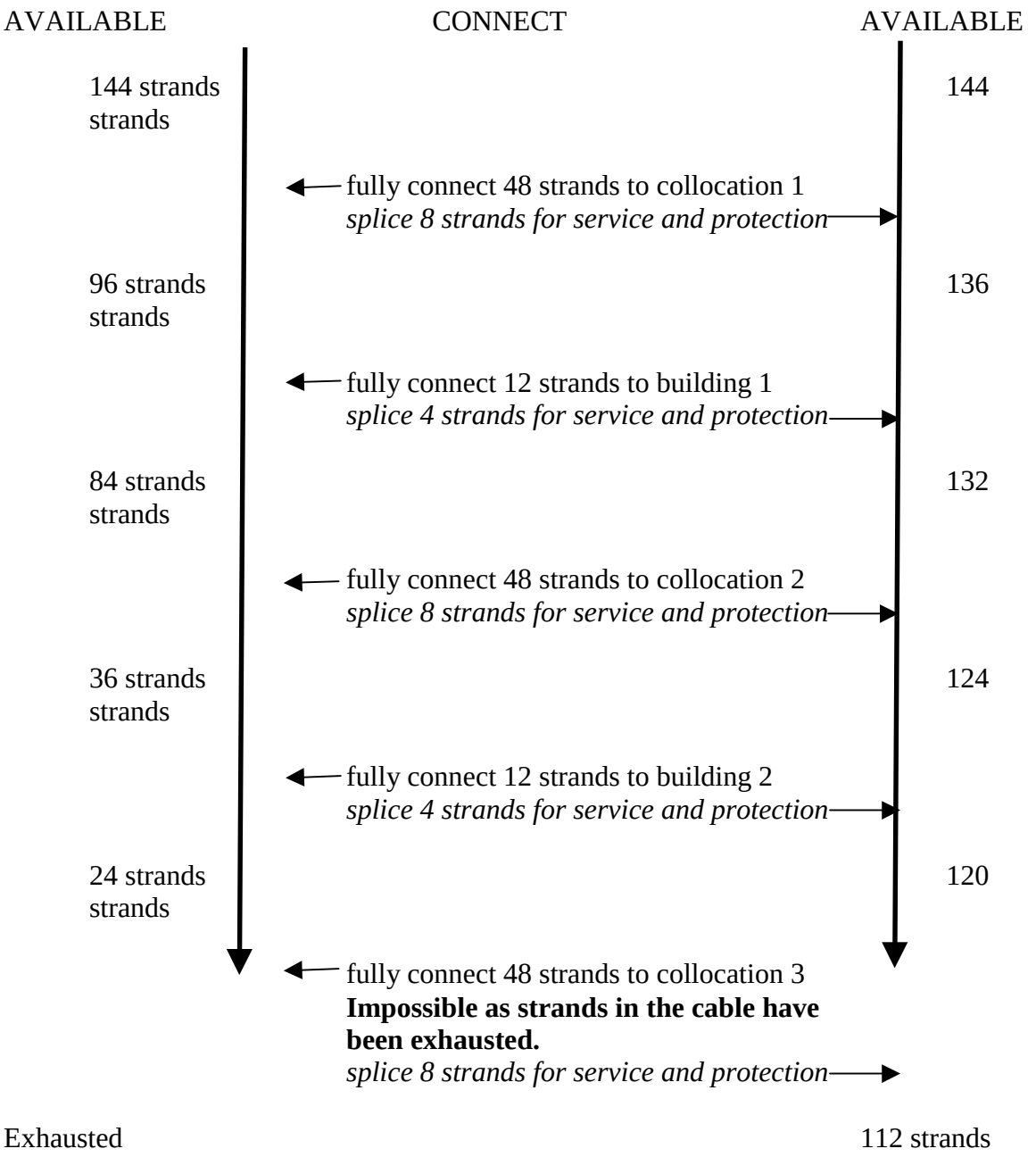
REQUEST: Staff's Second Set of Interrogatories

DATED: February 6, 2004

Interrogatory 25: Explain why a carrier would not splice all its deployed fiber to its ring all at the same time. Do you have any points in your network where you have deployed fiber, but have not connected all fiber strands to the ring? If so, where?

Response: In general, a carrier's goal is to deploy its network facilities in a manner that provides the highest level of flexibility while limiting unnecessary costs. Therefore, carriers avoid practices that add unnecessary cost to either the construction or maintenance of the network, or limits the potential use of deployed assets. The following example demonstrates why this is rational both from an engineering and economic perspective.

Assume a carrier deploys a 144-strand fiber cable (physical backbone) that it wishes to use to build individual system rings to serve four collocations and 10 buildings. Assume further that, as suggested by BellSouth's witness Padgett, the carrier pulls two 24-strand fiber cables into each of the collocations. Finally assume that the carrier elects to pull one 12-strand fiber cable into each of the buildings.



By splicing only the necessary strands to the physical cable all four collocations and all ten buildings can be served using only 72 strands thus allowing for future growth either to existing building or to new buildings that can be served from the fiber ring.[1]

In response to the second part of this Interrogatory, AT&T's

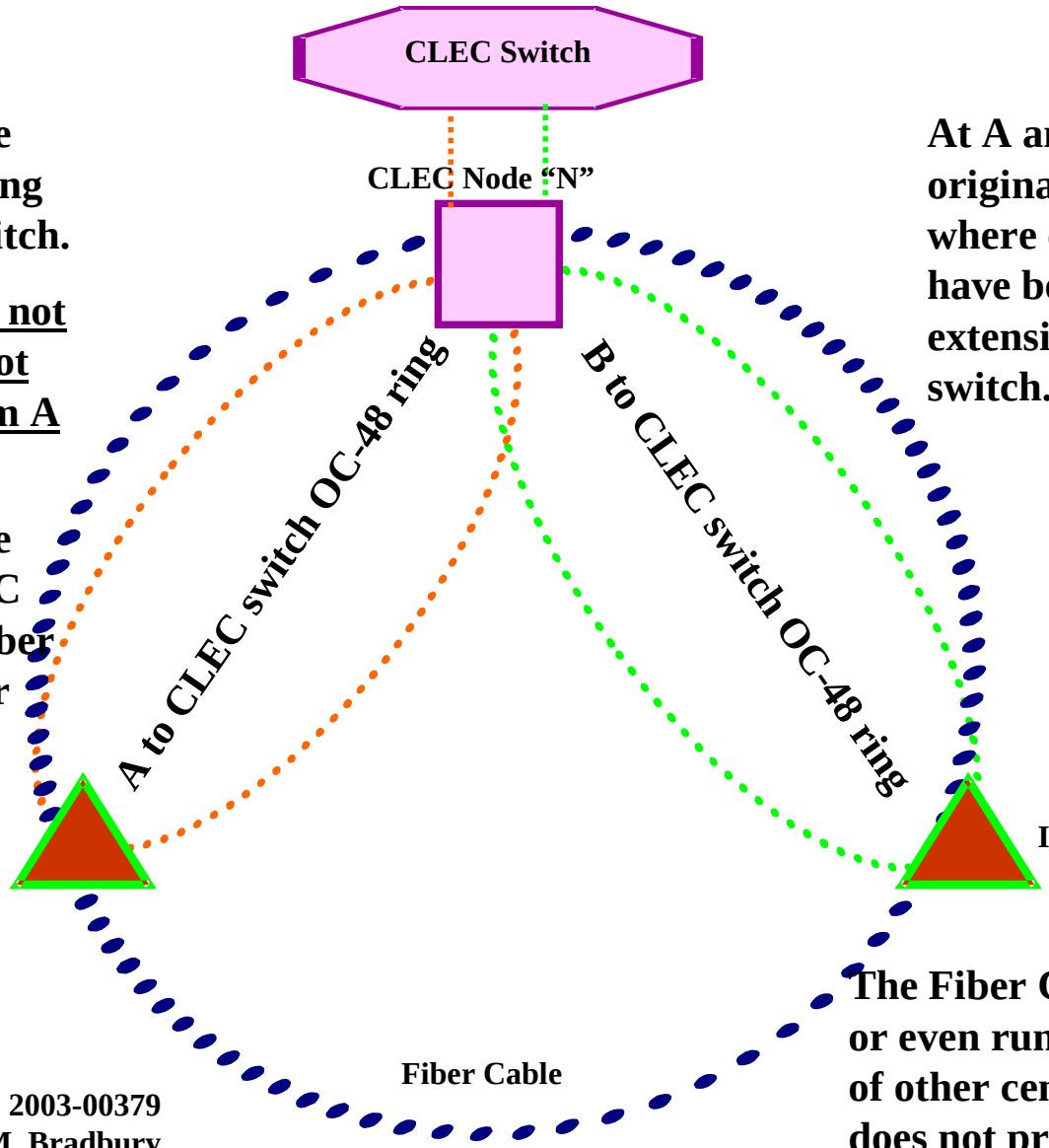
[1] This practice is consistent with the use of the ILEC's copper network. For example, while there may be four copper pair terminated at a customer premise, unless the ILEC is providing service to all four loops, the ILEC does not establish a contiguous path back to its switch.

previously submitted lists of its on-net collocations and buildings to which we self-provide backhaul and high capacity loops. At every one of these locations AT&T will have deployed a fiber entrance facility or fiber lateral that contains fiber strands not connected (spliced) to the fiber cable (physical ring).

Ring A and Ring B are used exclusively to bring loops to the CLEC switch.

<u>Ring A and Ring B do not interconnect and do not provide a "route" from A to B.</u>

Ring A and Ring B are connected to the CLEC switch using unique fiber strands from the Fiber Cable.

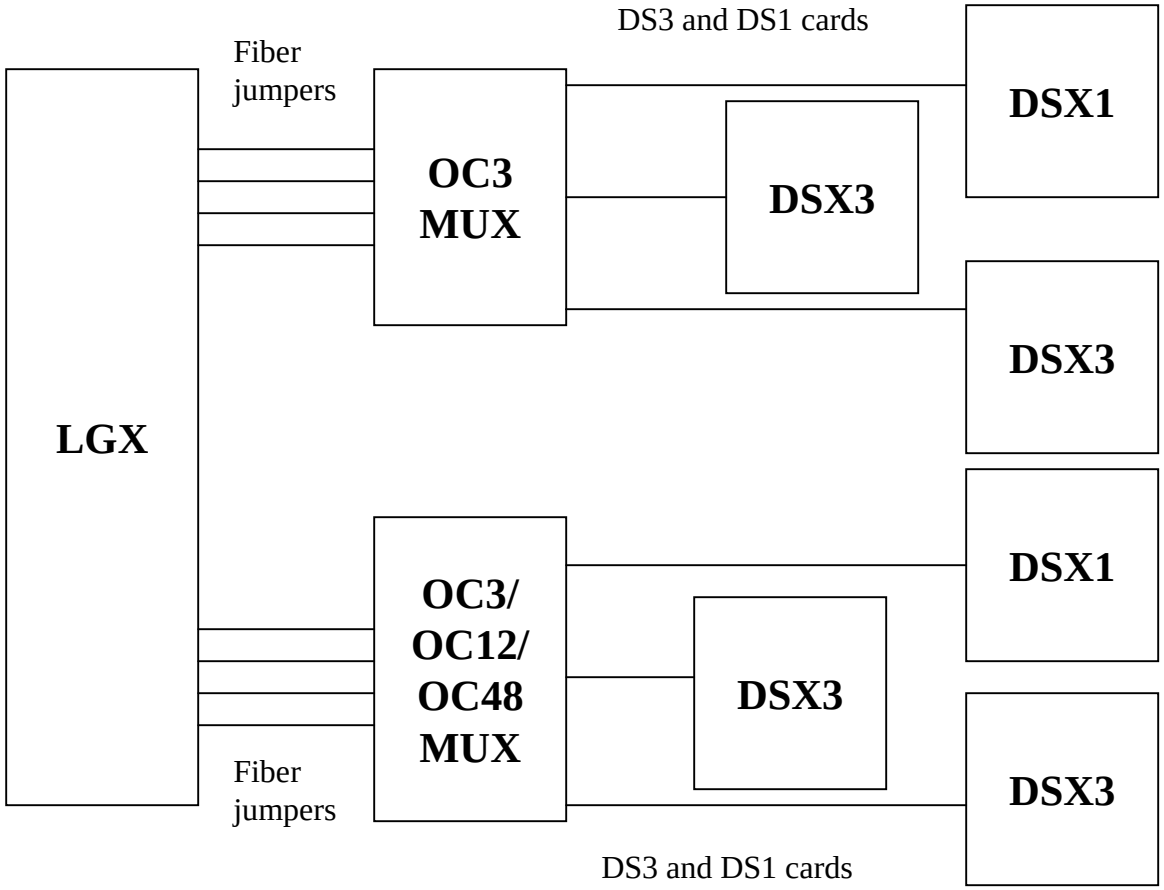


At A and B the rings originate in collocations where customer loops have been aggregated for extension to the CLEC switch.

The Fiber Cable may pass near or even run through a number of other central offices, but <u>this does not provide a "route" between any of them.</u>

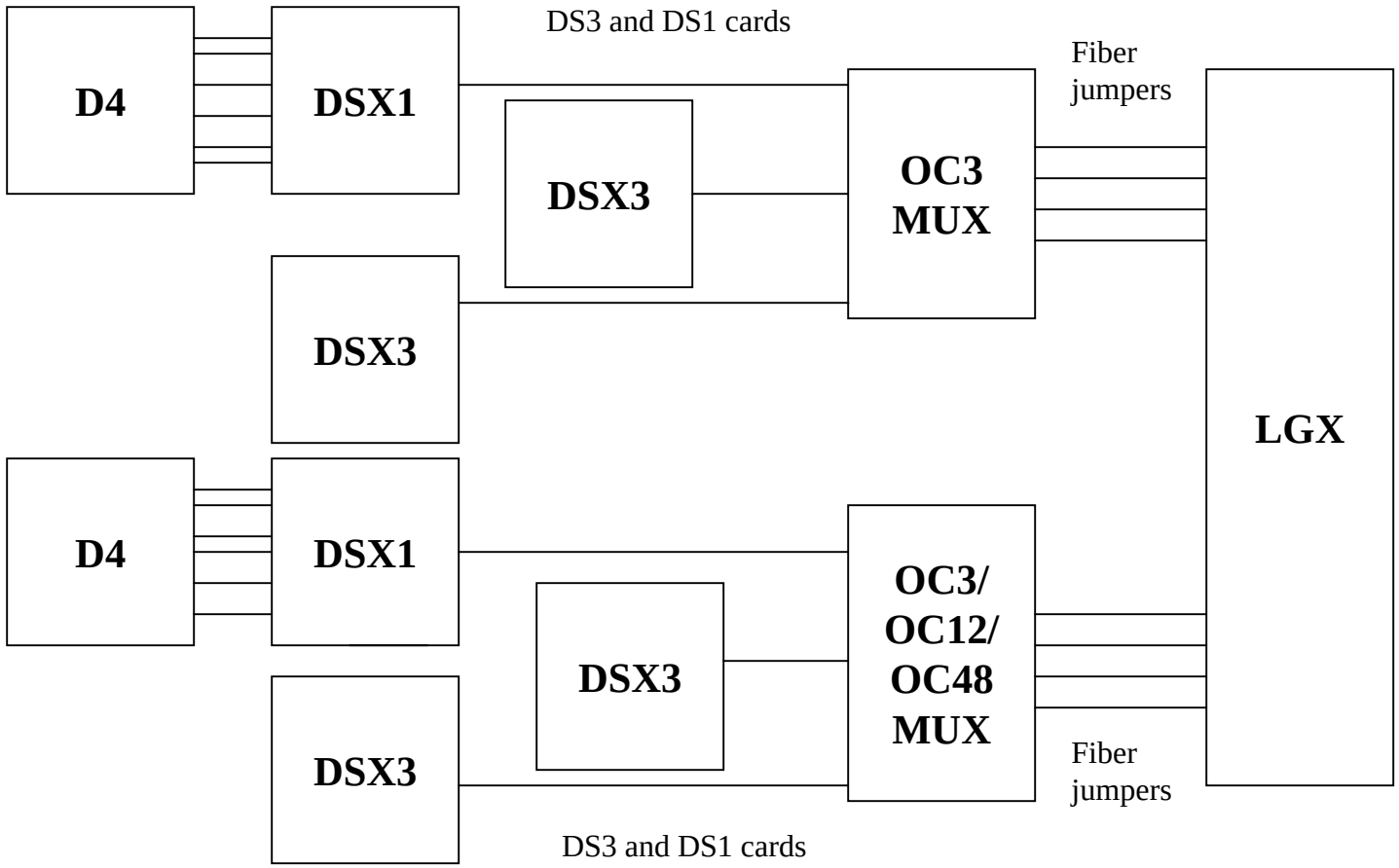
KPSC Case No. 2003-00379
Rebuttal Testimony of Jay M. Bradbury
Exhibit: JMB-R6
March 31, 2004

Key Network Architecture Equipment Needed for High Capacity Loops Or Dedicated Transport for Full Channelization Collocations and CLEC Node

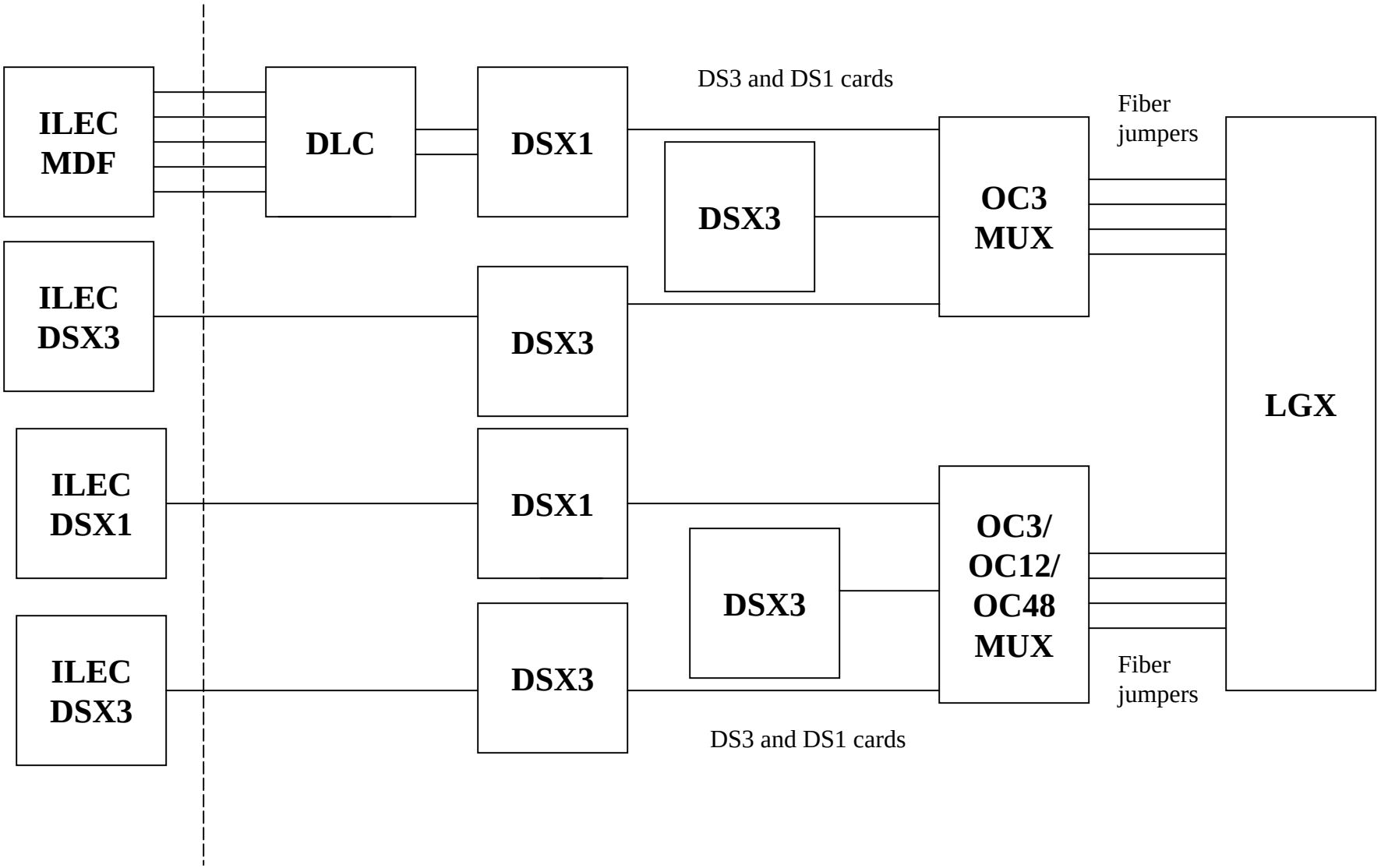


KPSC Case No. 2003-00379
Rebuttal Testimony of Jay M. Bradbury
Exhibit: JMB-R7
March 31, 2004

Key Network Architecture Equipment Needed for High Capacity Loops Or Dedicated Transport for Full Channelization Customer Locations



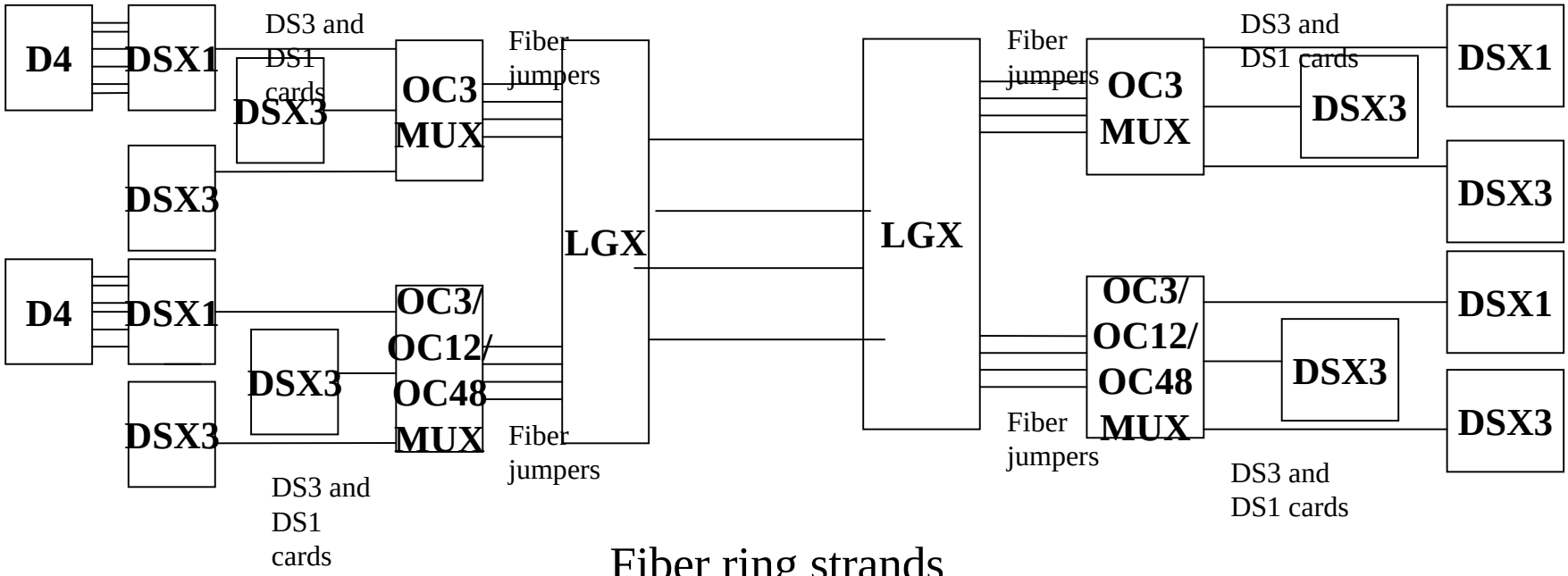
Key Network Architecture Equipment Needed for High Capacity Loops
Or Dedicated Transport for Full Channelization
CLEC Collocation with DLCs



Without specific dedicated DS3 and DS1 equipment components at both the customer location and CLEC node neither DS3 or DS1 signals can be exchanged.

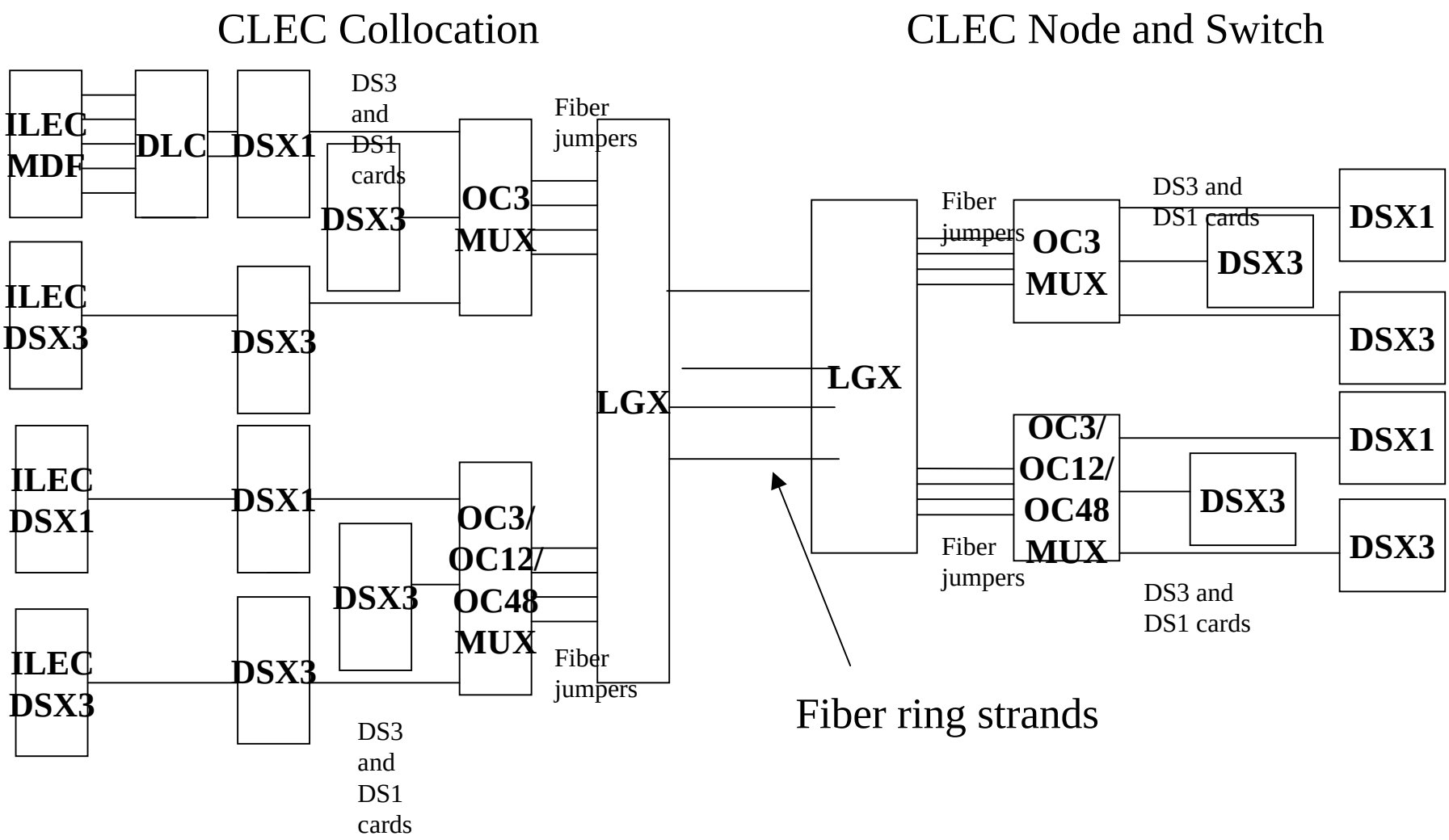
Customer Location

CLEC Node

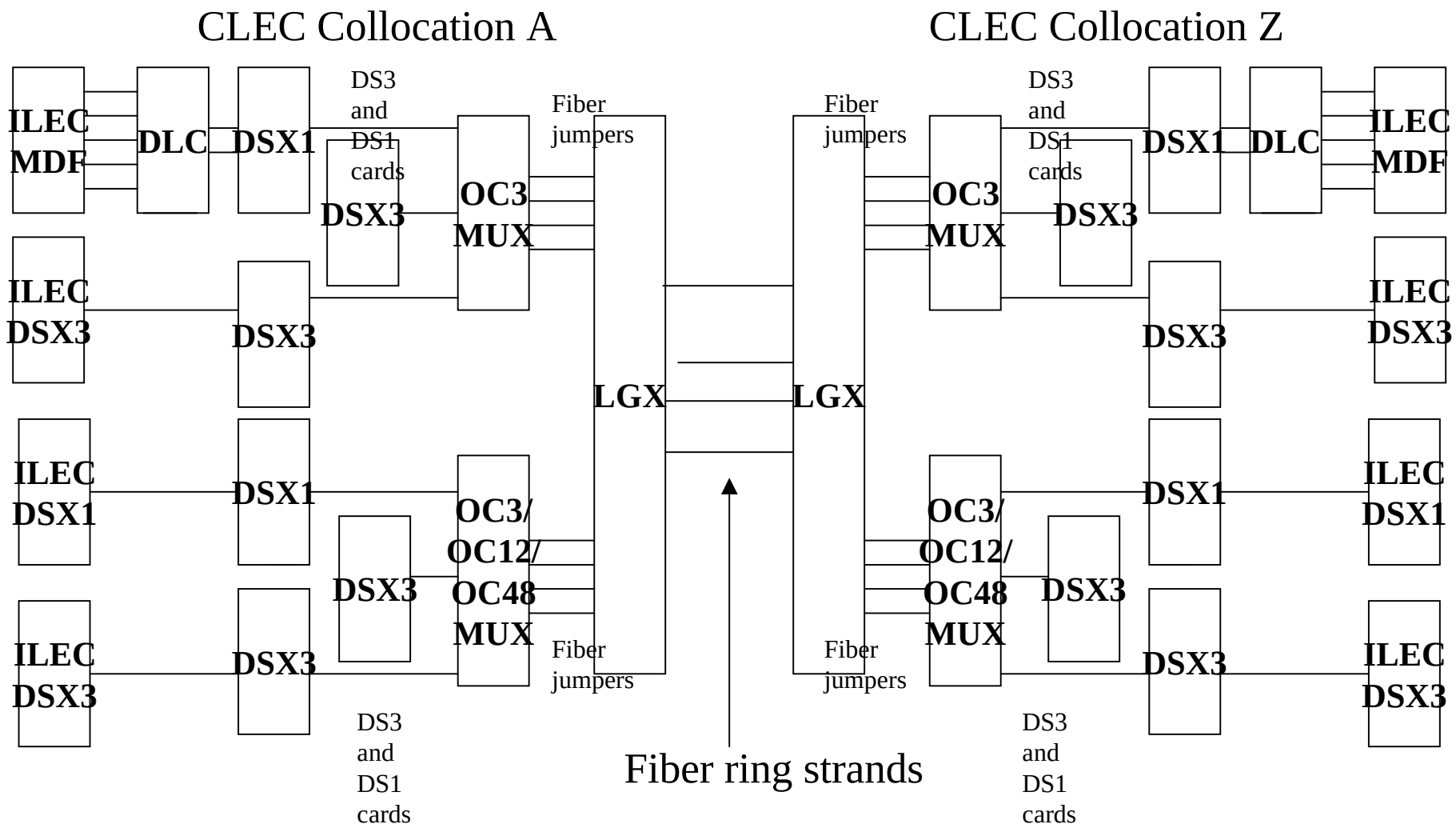


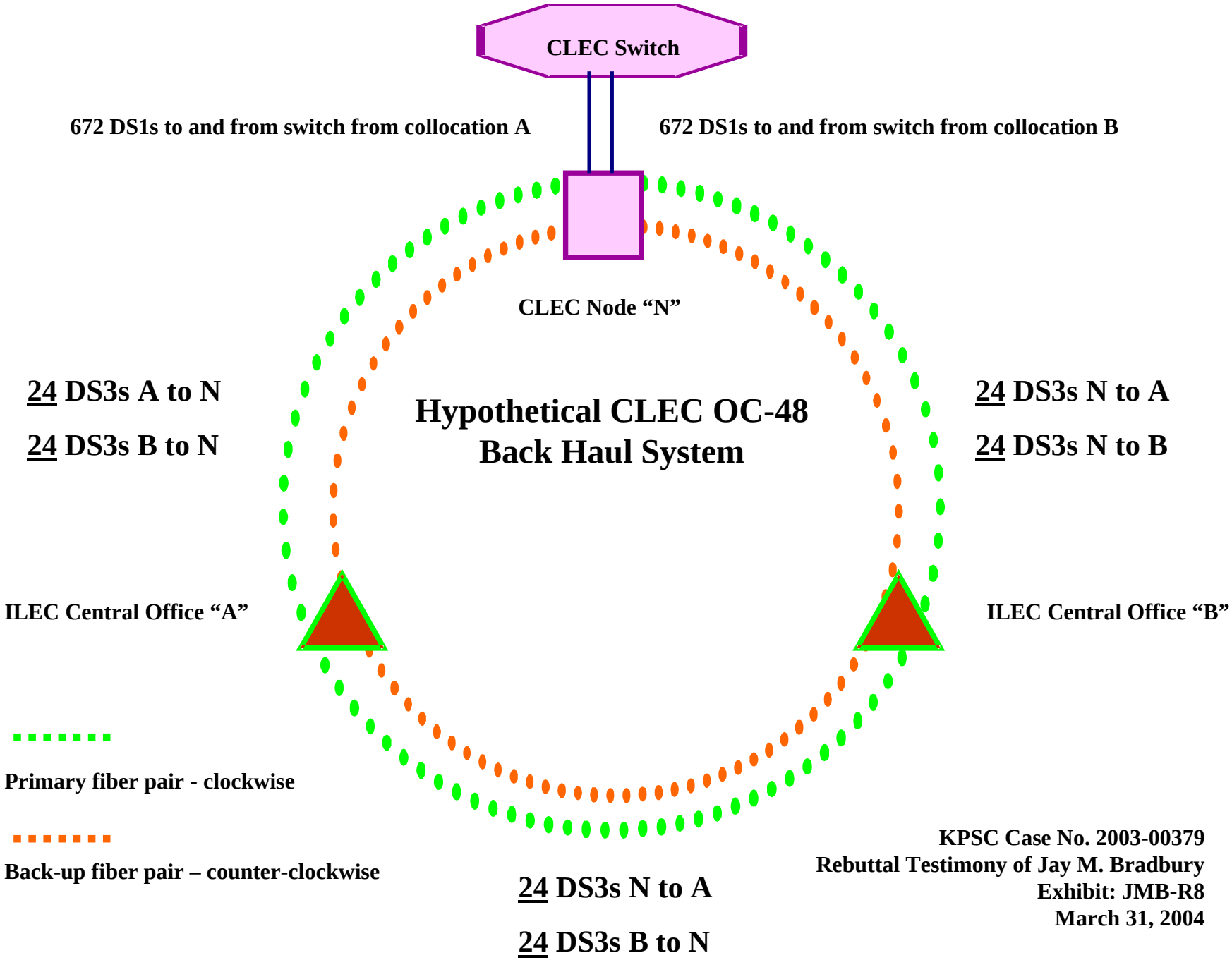
Fiber ring strands

AT&T aggregates loops at its collocations for delivery to its switch. Without specific dedicated DS3 and DS1 equipment components at both ends neither DS3 or DS1 signals can be exchanged.

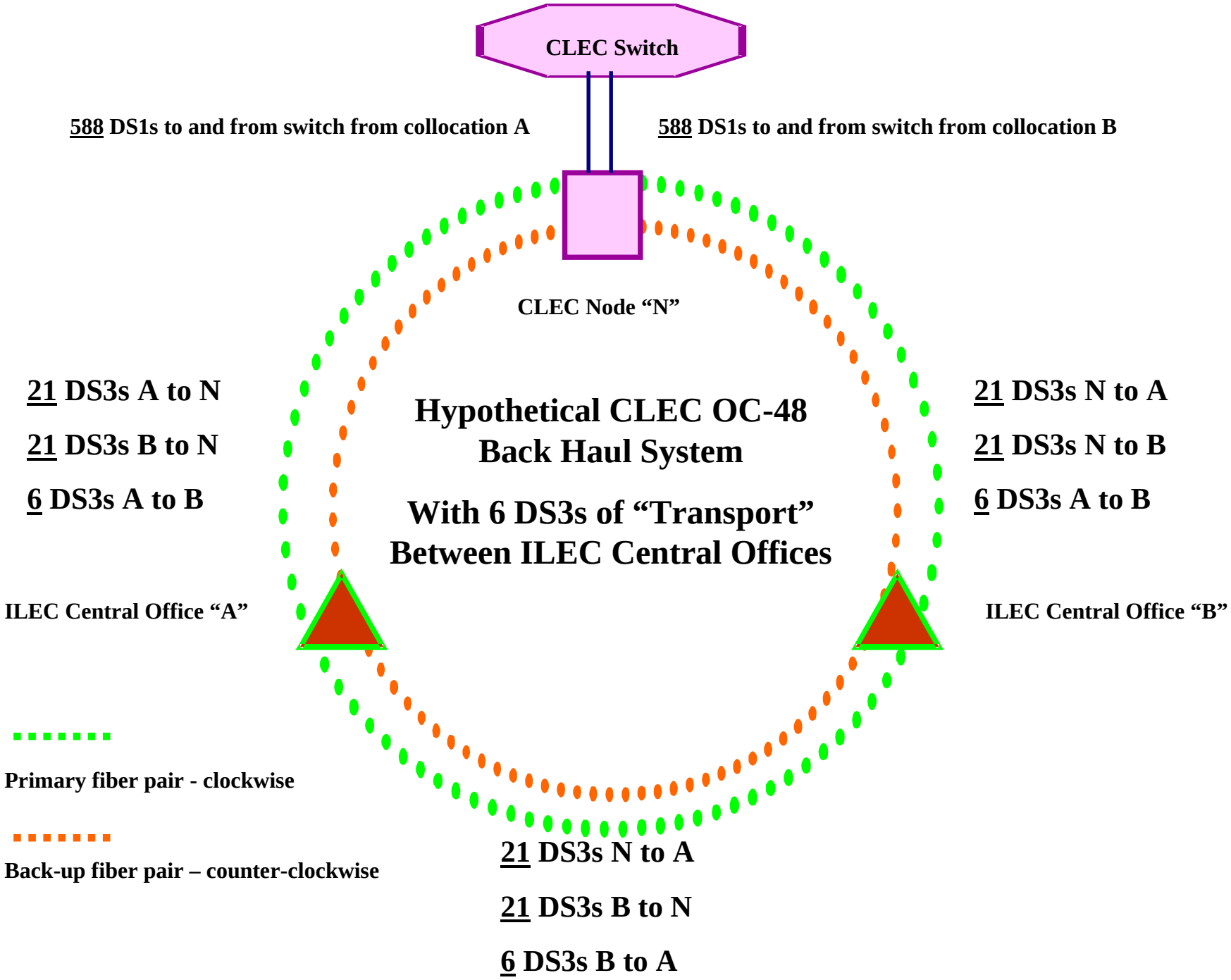


AT&T does not self-provide transport between its collocations. However for any CLEC that might, without specific dedicated DS3 and DS1 equipment components at both ends neither DS3 or DS1 signals can be exchanged.





KPSC Case No. 2003-00379
Rebuttal Testimony of Jay M. Bradbury
Exhibit: JMB-R8
March 31, 2004


CLEC Switch
588 DS1s to and from switch from collocation A
588 DS1s to and from switch from collocation B
CLEC Node "N"
21 DS3s A to N
21 DS3s B to N
6 DS3s A to B
Hypothetical CLEC OC-48
Back Haul System
With 6 DS3s of "Transport"
Between ILEC Central Offices
21 DS3s N to A
21 DS3s N to B
6 DS3s A to B
ILEC Central Office "A"
ILEC Central Office "B"
Primary fiber pair - clockwise
Back-up fiber pair – counter-clockwise
21 DS3s N to A
21 DS3s B to N
6 DS3s B to A

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking on the Commission's Own Motion Into Competition for Local Exchange Service.	R.95-04-043
Order Instituting Investigation on the Commission's Own Motion Into Competition for Local Exchange Service.	I.95-04-044

Direct Testimony of Scott J. Alexander

On Behalf of SBC California

Regarding Dedicated Transport

ON BEHALF OF

SBC CALIFORNIA

REDACTED ATTACHMENTS

November 20, 2003

KPSC Case No. 2003-00379
Rebuttal Testimony of
Jay M. Bradbury
Exhibit: JMB-R9
March 31, 2004

responses to the discovery requests issued by the Commission and the parties. SBC received partial discovery responses to the Commission's data requests on the date of this filing and has yet to receive complete discovery responses from any parties in response to its own requests. SBC is in the process of analyzing the data it has received in light of the considerations set forth by the FCC for potential deployment. Further, the upcoming workshop should be an additional source of competitive carrier information.

Q7. How is your testimony organized?

A7. First, in Section I.B, I provide background information about dedicated transport and generally describe the development and extent of competitive transport facilities. Next, I discuss in Section I.C the pertinent provisions of the FCC's *Triennial Review Order*. In Section II, I apply the FCC's "triggers" for self-provisioned and wholesale transport (which are based on existing competitive facilities). Overall, I describe the evidence of competitive facilities that I considered, and demonstrate that such evidence supports (at a minimum) a *prima facie* showing of "non-impairment" for the dedicated transport routes I identify.

B. Background

Q8. What is dedicated transport?

A8. Dedicated transport facilities connect two points within a communications network, so that information can be transmitted between those two points. "Dedicated" transport means all or part of the facility is dedicated to a particular carrier or use and that there is no switching interposed along the transport route.

Q10. How does SBC use dedicated transport within its own network?

A10. SBC's network architecture has traditionally used "central offices" (also known as "end offices" or "wire centers") which link end users in a given area to the network, and "tandem" offices, which connect central offices. Dedicated transport facilities run between SBC's central offices, between central offices and tandem offices, and between tandem offices. Such transport facilities are generally referred to as "interoffice transmission facilities" because they connect two of SBC's offices. Attachment 1 illustrates dedicated transport in SBC's network. Dedicated transport, as discussed in my testimony, consists of dedicated interoffice transmission facilities that are dedicated to a particular customer or carrier. "Shared" transport, which consists of transmission facilities shared by more than one carrier, is not at issue in this case.

Q11. What is "dark" fiber?

A11. Dark fiber is deployed fiber optic cable (or fiber strands within an existing fiber optic cable) between two points. It is called "dark" fiber because the cable (or some of the fiber strands in the cable) have not been "lit" by optronic equipment (which transmits information in the form of lightwave pulses, as I described above) on either end of the fiber. Dark fiber *transport* is unlit fiber cable (or strands) between two SBC central offices. A dark fiber *loop* (which I discuss in separate testimony on high-capacity loops) is unlit fiber between a customer location and an SBC central office.

Q12. Have carriers other than SBC deployed transport facilities?

A12. Yes. Nationwide, competing carriers of all sizes have deployed over 184,000 miles of fiber optic cable. The Association for Local Telecommunications Services ("ALTS"), an