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March 15, 2004

Hon. Deborah Taylor Tate
Tennessee Regulatory Authority
460 James Robertson Parkway
Nashville, Tennessee TN 37238

Re. Implementation of the Federal Communications Commission's Triennial Review Order (Nine –Month Proceeding) (Loop and Transport)
Docket 03-00527

Dear Chairman Tate:

Enclosed please find 4 copies and 1 CD ROM of the Proprietary Rebuttal Testimony of Gary J Ball on behalf of CompSouth This information is being provided subject to the terms of the Protective Order entered in this proceeding

Very truly yours,

BOULT, CUMMINGS, CONNERS & BERRY, PLC

By: Henry Walker

HW/pp

BEFORE THE TENNESSEE REGULATORY AUTHORITY

In Re:	)	
	)	
Implementation of the Federal	)	Docket No. 03-00527
Communications Commission's Triennial	)	
Review Order (Nine-Month Proceeding)	)	
(Loops and Transport)	)	
	)	

REBUTTAL TESTIMONY

OF

GARY J. BALL

ON BEHALF OF

COMPETITIVE CARRIERS OF THE SOUTH

March 15, 2004

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

A. My name is Gary J. Ball. I am an independent consultant providing analysis of regulatory issues and testimony for telecommunications companies. My business address is 47 Peaceable Street, Ridgefield, Connecticut 06877.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?

A. I am testifying on behalf of the Competitive Carriers of the South ("CompSouth"). CompSouth is a coalition of competitive carriers operating in the Southeast, including in Tennessee, that are committed to the advancement of policies that encourage local and long distance competition in the state.

Q. ARE YOU THE SAME GARY BALL THAT SUBMITTED DIRECT TESTIMONY ON BEHALF OF COMPSOUTH ON MARCH 1, 2004?

A. I am.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my rebuttal testimony is to analyze and rebut BellSouth's assertions regarding the self-provisioning and wholesale triggers for high

capacity loops and dedicated transport, and BellSouth's claims that numerous transport routes satisfy the FCC's rigorous potential deployment requirements.

In its *Triennial Review Order* ("*TRO*"),[1] 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"). The FCC conducted a comprehensive analysis that resulted in this determination that CLECs are impaired without access to high-capacity loops and dedicated transport at the national level. Recognizing that there may be individual customer locations or transport routes where competitively provisioned loops and transport have been deployed to such an extent that CLECs are not impaired, the FCC developed a procedure known as the trigger analysis ("triggers"). The triggers are designed 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 transport at *specific* customer locations or on *specific* dedicated transport routes for specific capacity levels. The two

[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 03-36 (rel. Aug. 21, 2003).

triggers the FCC adopted – self-provisioning and wholesale – are meant to be evaluated independently and should not be blended in analysis.

In my testimony, I demonstrate that BellSouth, through its witness Shelley W. Padgett, has grossly overstated the number of enterprise customer locations and transport routes that satisfy the self-provisioning and wholesale triggers. Additionally, I explain why BellSouth's potential deployment analysis for high capacity loops and dedicated transport contained in Dr. Andy Banerjee's testimony fails to incorporate the FCC's route-specific analysis, and as a result produces unjustifiable quantities of transport routes and customer locations for which BellSouth erroneously contends that the TRA should make non-impairment findings and relieve BellSouth of its unbundling obligations.

Q. HOW IS YOUR TESTIMONY ORGANIZED?

A. My testimony is divided into six sections. In Section I, I discuss how BellSouth is incorrectly interpreting the requirements of the *TRO*. In Section II, I critique BellSouth's self-provisioning trigger analysis, and explain how BellSouth's has overstated the number of buildings and routes that meet the triggers due to its incorrect interpretations of the *TRO*. In Section III, I provide a similar critique of BellSouth's wholesale trigger analysis. In Section IV, I describe the FCC's potential deployment criteria. In Section V, I critique BellSouth's potential deployment analysis

relating to loops and transport. In Section VI, I address Ms. Padgett's inadequate proposal for transitioning services that have been delisted.

I. BELLSOUTH'S INTERPRETATIONS OF THE *TRO* ARE INCORRECT

Q. MS. PADGETT MAKES SEVERAL ASSERTIONS IN HER TESTIMONY REGARDING PROPER INTERPRETATION OF THE *TRO*. CAN YOU SUMMARIZE THESE ASSERTIONS?

A. Yes. First, Ms. Padgett claims that it is appropriate to include OC(n) level loop and transport services in the self-provisioning trigger analyses for DS1, DS3, and dark fiber. Second, Ms. Padgett asserts that CLECs do not have to be offering dedicated transport service between the "A" and "Z" wire centers for a route to be included, and that switched transport can be counted as dedicated transport for the purposes of the triggers. Third, Ms. Padgett asserts that a CLEC is not required to offer wholesale service at a specific location or route for that location or route to be counted toward the trigger. Fourth, Ms. Padgett asserts that it is not necessary for a CLEC to have access to an entire building to meet the self-provisioning triggers. Finally, Ms. Padgett asserts that wholesale loops do not have to be offered at wire center collocation arrangements. Each of these assertions is incorrect.

Q. HOW DO THESE ASSERTIONS IMPACT BELLSOUTH'S PROPOSED TRIGGER ANALYSIS?

A. The result of applying BellSouth's interpretations to the triggers is a much larger number of buildings and routes than would result from an accurate and realistic reading of the *TRO*.

Q. PLEASE EXPLAIN MS. PADGETT'S ASSERTION REGARDING INCLUDING OC(N) LEVEL SERVICES IN THE SELF-PROVISIONING TRIGGERS.

A. On pages 8 and 26 of her direct testimony, Ms. Padgett declares that OC(n) facilities should count for the DS3 and DS1 triggers based upon her understanding that DS3 and DS1 services can be derived from an OC(n) system. For example, if a carrier has deployed an OC(3) system, that system potentially could be configured with the appropriate electronics to derive 3 DS3s, each of which can be further multiplexed to derive 28 DS1s. Ms. Padgett asserts that the FCC intended for this "potential capability" of the CLEC networks to be included in the triggers.

Q. IS MS. PADGETT'S ASSERTION REGARDING OC(N) LEVEL SERVICES CONSISTENT WITH THE *TRO*'S IMPAIRMENT ANALYSIS AND CONCLUSIONS?

A. No. In fact, it is the opposite of the FCC's approach. The FCC concluded that locations and routes served by OC(n) and multiple (3 and above) DS3

facilities have significantly different economic characteristics from those served by stand alone dark fiber, DS1, and individual DS3 services. The FCC concluded that CLECs generally can receive enough revenue for OC(n) and multiple DS3 service locations and routes to offset their costs of network construction and installation, and made a national finding of non-impairment for those services. For locations and routes that only support standalone DS1 or DS3 services, the FCC concluded that CLECs cannot receive enough revenue to recover their costs of construction, and made a national finding of impairment that can be overcome on a location or route specific basis by the triggers. If the FCC had intended for any OC(n) level service to count toward the DS1, DS3, and dark fiber triggers, as Ms. Padgett suggests, then it would not have made such a distinction, and simply would have declared no impairment wherever any type of OC(n) service is provided instead of developing the capacity-specific triggers. The fact that the FCC concluded that enough customer demand exists to support OC(n) or 3 DS3 levels of loop or transport is not indicative of a CLEC's ability to provide DS1, DS3 or dark fiber on those routes or at those locations.

Q. MS. PADGETT ASSERTS THAT, TO THE EXTENT A CLEC CAN DERIVE OR IS DERIVING A DS1 OR DS3 SERVICE FROM AN EXISTING OC(N) SYSTEM AT A GIVEN LOCATION, THEN

THAT LOCATION SATISIFIES THE TRIGGER. DID THE FCC EXPLICITLY REJECT SUCH AN APPROACH ?

A. Yes. In its discussion of impairment for DS1 loops in paragraph 325, the FCC rejected such an arrangement as evidence of self-deployment. In footnote 957, the FCC stated "[w]e note that at least two competitive LECs have provided evidence that they self-provide some DS1 capacity loops to certain customer locations. *See supra* note 859. 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 DS3 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."

Q. BASED UPON THE FCC'S OWN INTERPRETATION IN FOOTNOTE 957, IS IT REASONABLE TO CONCLUDE THAT THE FCC INTENDED TO EXCLUDE FROM THE TRIGGERS ANY LOCATION OR ROUTE WHERE AN OC(N) OR 3 DS3 LEVEL OF CAPACITY HAS BEEN DEPLOYED BY A CLEC, EVEN IF INDIVIDUAL DS1S OR DS3S HAVE BEEN OR CAN BE DERIVED FROM THAT SYSTEM?

A. Yes. The FCC's impairment analysis is based upon distinguishing locations with high demand for network capacity from those with low demand. The FCC already has assumed that CLECs can self-provision

facilities to the "high demand" locations, which was the basis of its impairment analysis. In the FCC's view, a CLEC that has deployed an OC(n) or 3 DS3 level of capacity to a location or a route is merely evidence that the location is a "high demand" location, for which the FCC already has concluded that no impairment exists. The narrower circumstance the FCC is seeking in the triggers are those "low demand" locations for which DS1, DS3, or dark fiber services are being deployed without the benefit of existing OC(n) or 3 DS3 facilities.

Q. ON PAGE 25 OF HER TESTIMONY, MS. PADGETT ASSERTS THAT THE *TRO* DOES NOT REQUIRE EVIDENCE THAT CLECS ARE OFFERING DEDICATED TRANSPORT SERVICE BETWEEN ILEC WIRE CENTERS IN ORDER FOR THE TWO WIRE CENTERS TO BE CONSIDERED ENDPOINTS OF A DEDICATED TRANSPORT ROUTE. IS MS. PADGETT CORRECT?

A. No. In paragraph 401 of the *TRO*, in defining a transport route, the FCC states: "[w]e define a route, for 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 of the incumbent LEC through wire center 'X.'"

(emphasis added). This definition is consistent with the FCC's desire to have market-based evidence as the primary means of identifying routes where there may be no impairment.

Q. DOES THE *TRO* REQUIRE EVIDENCE THAT SERVICE IS BEING PROVIDED OR OFFERED AT THE SPECIFIC CAPACITY LEVELS CONTEMPLATED BY THE *TRO*?

A. Yes. Each of the *TRO*'s trigger definitions requires evidence that the CLEC is providing service at that specific capacity level. For example, in describing the self-provisioning trigger in paragraph 329, the FCC states that the ILEC's unbundling obligation can be eliminated "where a specific customer location is identified as being *currently served* by two or more unaffiliated competitive LECs with their own loop transmission facilities *at the relevant loop capacity level*." (emphasis added). For wholesale triggers, the ILEC's unbundling obligations can be eliminated "where two or more unaffiliated competitive providers have deployed transmission facilities to the location and *are offering* alternative loop facilities to competitive LECs on a wholesale basis *at the same capacity level*." For transport, the wholesale trigger definition in paragraph 400 provides "[s]pecifically, we find that competing carriers are not impaired where competing carriers have available two or more alternative transport providers, not affiliate with each other or the incumbent LEC, *immediately capable and willing to provide transport at a specific capacity* along a

given route between incumbent LEC switches or wire centers." (emphasis added). For the self-provisioning transport trigger, the *TRO* anticipates that the test will be performed for specific capacity levels. In the *TRO*, the FCC states "we note that where, through the application of this trigger, impairment for unbundled transport *at a particular capacity* is no longer found, substantial competitive transport facilities, and perhaps other capacities of UNE transport will be available. Therefore, if this trigger removes unbundled transport *at a particular capacity level*, carriers will remain capable of serving end-user customers in all areas." *TRO* ¶ 407.

Q. ON PAGE 19 OF HER TESTIMONY, MS. PADGETT ALSO ASSERTS THAT TRAFFIC ROUTED THROUGH A CLEC SWITCH SHOULD BE COUNTED AS DEDICATED TRANSPORT. DO YOU AGREE?

A. No. This type of arrangement is switched transport. Switched transport cannot meet the FCC's definition of dedicated transport, because the route can not be dedicated to a particular customer or carrier. A dedicated transport route has two endpoints, and traffic only can flow between one endpoint to another endpoint. Switched transport, on the other hand, has at least three endpoints, as the function of the switch is to provide temporary connections between pairs of the numerous endpoints connected to the switch. The "route" in this instance is shared among all

carriers and customers that are connected to the switch. This is why switched transport is also generally referred to as "shared transport."

Q. DOES THE FCC DISTINGUISH SHARED TRANSPORT FROM DEDICATED TRANSPORT IN THE *TRO*?

A. Yes. In footnote 1100 of the *TRO*, the FCC states that "[w]e refer generically to "transport" in this Part as meaning dedicated transport. We address shared transport in Part VI.E. of this Order."

Q. MS. PADGETT RELIES PRIMARILY UPON THE FCC'S USE OF THE TERM "SWITCH" IN THE RULES DEFINING A TRANSPORT ROUTE. IN WHAT CONTEXT IS THE FCC USING THAT TERM?

A. The FCC is using the term switch as an alternative term for wire center and shorthand for "switching center" or "switch location." This is consistent with the use of the term in paragraph 401, in which the FCC defines a route as a connection between wire center or switch "A" and wire center or switch "Z." There are numerous names the industry uses to describe the ILEC building that houses the ILEC's switches and serves as an aggregation point for loop facilities, including "central offices", "end offices", "wire centers", "switching centers", and "switching offices," and it is common to shorten the term switching center to switch to describe such a building.

Q. ON PAGE 12 OF HER TESTIMONY, MS. PADGETT ASSERTS THAT IT IS NOT NECESSARY TO DEMONSTRATE THAT A CLEC IS OFFERING WHOLESALE SERVICE AT A PARTICULAR LOCATION OR ON A GIVEN ROUTE TO MEET THE WHOLESALE TRIGGERS. IS THIS CONSISTENT WITH THE FCC'S DEFINITION OF THE WHOLESALE TRIGGERS?

A. No. The FCC specifically provided that the wholesale triggers require location- or route-specific evidence of an offering of service. In paragraph 337 of the *TRO*, in which the FCC defines the wholesale trigger for loops, the FCC states, "[w]here competitive LECs have two alternative choices (apart from the incumbent LEC's network) to purchase wholesale high-capacity loops, including intermodal alternatives, *at a particular premises*, we conclude that impairment does not exist at that location for that type of high-capacity loop." (emphasis added). Likewise, in defining the wholesale trigger for transport in paragraph 400, the FCC states, "[s]pecifically we find that competing carriers are not impaired where competing carriers have available two or more alternative transport providers, not affiliated with each other or the incumbent LEC, immediately capable and willing to provide transport at a specific capacity *along a given route* between incumbent LEC switches or wire centers." (emphasis added). Ms. Padgett's proposal to essentially label every CLEC route and building as wholesale is clearly at odds with the FCC's location- and route-specific requirements.

Q. ON PAGE 6 OF HER TESTIMONY, MS. PADGETT STATES THAT A CLEC'S SERVICE SHOULD QUALIFY FOR THE SELF-PROVISIONING TRIGGER EVEN IF THE CLEC DOES NOT HAVE ACCESS TO THE ENTIRE CUSTOMER LOCATION. IS SHE CORRECT?

A. No. Ms. Padgett is basing her assertion solely upon her contention that the rule for the wholesale loop trigger explicitly requires that the CLEC has access to the entire customer premises, while the self-provisioning trigger, according to Ms. Padgett, does not state the same in explicit terms. Ms. Padgett ignores the fact that the self-provisioning trigger also has a different set of requirements from the wholesale trigger, and that the FCC is using self-provisioned service as evidence that CLECs can overcome the economic barriers to providing standalone DS3 services. The self-provisioning trigger requires evidence of actual service to a customer location, as opposed to the wholesale trigger, which requires evidence of the ability to serve an entire building. This is a distinct difference for large multi-unit buildings, in that a customer location may be a particular floor within the building. To the extent that the CLEC only has provisioned service to that particular customer location, then there cannot be a finding of non-impairment for the remaining customers and customer locations within the building, and to have the entire building meet the trigger would produce a result that is contrary to the FCC's impairment analysis.

Indeed, in the *TRO*, the FCC stated that CLECs must "have existing facilities in place serving customers at that location." *TRO* ¶ 332. If the CLEC only has provisioned facilities to serve part of the building, then the entire building does not meet this requirement. The appropriate interpretation is for the individual customer location to be counted toward the trigger, but not the entire building.

Q. ON PAGE 5 OF HER TESTIMONY, MS, PADGETT STATES THAT CLEC LOOPS THAT DO NOT TERMINATE IN A CLEC COLLOCATION SHOULD BE COUNTED TOWARDS THE WHOLESALE TRIGGER. IS THIS AN APPROPRIATE INTERPRETATION?

A. No. Ms. Padgett ignores the requirement that wholesale services be made "widely available" to other CLECs. To the extent that wholesale loops are made available at an ILEC wire center, all of the CLECs that have access to that wire center also will have reasonable access to the wholesale CLEC's loops. As I described above, CLECs generally have configured their networks to utilize unbundled loops at the ILEC wire center. To the extent that a wholesale CLEC requires its customers to extend their networks to a different location, then the wholesale CLEC's loops would not be widely available, and CLECs would be limited both economically and logistically from using the wholesale service.

II. CRITIQUE OF BELLSOUTH'S SELF-PROVISIONING TRIGGER ANALYSIS

A. HIGH CAPACITY LOOPS

Q. HAVE YOU REVIEWED BELLSOUTH'S TESTIMONY CONCERNING THE APPLICATION OF THE SELF-PROVISIONING TRIGGER TO HIGH CAPACITY LOOPS?

A. Yes, I have reviewed the testimony of Shelley W. Padgett regarding High-Capacity Loops beginning at page 2 of her testimony.

Q. WHAT WERE BELLSOUTH'S CONCLUSIONS REGARDING THE SELF-PROVISIONING TRIGGER ANALYSIS?

A. BellSouth has asserted that 37 customer loop locations satisfy the self-provisioning trigger at both the DS3 and dark fiber capacity levels. The specific customer locations are listed on Exhibit SWP-3 of Ms. Padgett's Testimony.

Q. PLEASE DESCRIBE THE PROCESS THAT BELLSOUTH USED TO IDENTIFY HIGH CAPACITY LOOP LOCATIONS FOR ITS SELF-PROVISIONING TRIGGER ANALYSIS.

A. BellSouth developed a list of building locations for which it claims competitive providers have deployed fiber optic facilities using discovery responses from the competitive providers and data from GeoResults, a third-party marketing firm. For each building on the list, BellSouth asserts that two or more competitive providers are providing services at the

building for both the dark fiber and DS3 capacity levels, and thus claims that the self-provisioning trigger has been met. BellSouth lists the following carriers as self-provisioning trigger providers at one or more locations: *** **BEGIN CONFIDENTIAL** *** AT&T, MCI, DSLNet, Level3 Communications, Time Warner Telecom, IDT/Winstar, Kentucky Data Link, Xspedius, Qwest, Memphis Networkx, Verizon, ICG Telecom, Adelphia/Telcove, and SBC Communications.*** **END CONFIDENTIAL** ***

Q. DID YOU REVIEW ANY OF THE DATA RESPONSES PROVIDED BY THESE CLECS?

A. Yes. I reviewed the proprietary responses of *** **BEGIN CONFIDENTIAL** *** AT&T, MCI, Qwest, Level 3, Time Warner and ICG Telecom. It does not appear that Memphis Networkx and Kentucky Data filed discovery responses. For the remaining carriers DSLNet, IDT/Winstar, Verizon, and SBC Communications, *** **END CONFIDENTIAL** ***BellSouth relied solely upon GeoResults, a third party marketing firm, as the source for those CLECs.

Q. DID BELLSOUTH APPROPRIATELY IMPLEMENT THE SELF-PROVISIONING TRIGGER FOR HIGH CAPACITY LOOPS?

A. No. Based on my review of the information in this case, including the majority of the CLEC data responses, BellSouth has overstated the

number of customer locations for which the self-provisioning loop trigger is met. In Exhibit GJB-1, I have revised Exhibit SWP-3 of Ms. Padgett's testimony based on the data contained in the CLEC discovery responses. Where CLECs acknowledged in their discovery responses that they self-provisioned loops at the DS3 level, I indicated so under the column with the CLEC's name. If a CLEC that BellSouth listed as serving a particular location did not indicate that it served that location in its discovery responses, then I noted that the CLEC does not qualify as a trigger candidate at that customer location. In doing so, I specified the reason that the CLEC does not qualify in the column titled "Basis of Exclusion." Of the discovery responses that I have reviewed, no CLEC indicated that it self-provisioned dark fiber loops at any customer location.

Q. OF THE BUILDINGS LISTED IN BELLSOUTH'S TESTIMONY, HOW MANY BUILDINGS POTENTIALLY SATISFY THE SELF-PROVISIONING TRIGGER BASED UPON THE CLEC DATA RESPONSES?

A. Of the customer locations that BellSouth claims satisfy the self-provisioning trigger for DS3 loops, I have identified 4 buildings that may meet the trigger. These buildings are indicated with a "1" in the column titled "Trigger Candidate?" in Exhibit GJB-1. There are 5 additional buildings that could potentially meet the trigger depending upon clarifying the responses of *** **BEGIN CONFIDENTIAL** *** ICG, Memphis

Networkx, and Kentucky Data Link. ICG did not indicate the specific capacity levels, and it does not appear that either Memphis Networkx or Kentucky Data Link filed data responses. *** **END CONFIDENTIAL** ***

Q. PLEASE EXPLAIN THE CODES YOU PROVIDED UNDER THE BASIS OF ELIMINATION COLUMN.

A. I used four different codes in the "basis of elimination" column to disqualify CLECs as triggers from the buildings BellSouth listed in Exhibit SWP-3. The first code is NR, which means that the building BellSouth indicated as being served by a CLEC was not included in the building list provided by the CLEC. The second code is OCN, which indicates that the CLEC is providing OCN or 3 DS3 and above level service at the location. The third code is GEO, which indicates that BellSouth relied solely upon GeoResults to identify the trigger. The fourth and final code is NDS3, indicating that the CLEC stated in its discovery responses that it is not currently self-provisioning loops at the DS3 capacity level to the given location.

Q. PLEASE PROVIDE AN EXAMPLE OF A CLEC THAT BELLSOUTH INCLUDED AS A TRIGGER EVEN THOUGH THAT CARRIER DID NOT INCLUDE ANY TENNESSEE BUILDINGS IN ITS DISCOVERY RESPONSE.

A. In its region-wide discovery response, *** **BEGIN CONFIDENTIAL** *** Time Warner indicated buildings in other states, but none in Tennessee. Nonetheless, BellSouth listed Time Warner for 12 buildings in Tennessee. For these buildings, Time Warner is indicated with an NR in the "Basis of Exclusion" column. *** **END CONFIDENTIAL** ***

Q. PLEASE EXPLAIN YOUR BASIS OF EXCLUDING BUILDINGS BEING SERVED AT AN OC(N) OR 3 DS3 AND ABOVE LEVEL OF CAPACITY?

A. As I described earlier in my testimony, the FCC has already determined that no impairment exists for locations that have a demand for an OC(n) or 3 DS3 level of capacity, and is seeking to identify locations that have lower demand for only 1 or 2 DS3s. A location for which a CLEC is providing 3 or more DS3s does not provide evidence that another CLEC can overcome the costs of deploying a loop to serve only 1 or 2 DS3s.

Q. HOW DID BELLSOUTH USE GORESULTS TO SUPPORT ITS TRIGGER FILINGS?

A. In her testimony, Ms. Padgett states that BellSouth relied upon GeoResults to identify building locations for its trigger analyses if BellSouth believed that the CLEC data BellSouth received was incomplete if it did not receive CLEC data. In Exhibit SWP-13 to her testimony, Ms. Padgett indicates the following carriers for which BellSouth relied solely upon GeoResults:

*** **BEGIN CONFIDENTIAL** *** Adelphia, DSLnet, IDT/Winstar, SBC Communications, Verizon, and Xspedius. *** **END CONFIDENTIAL** ***

Q. BASED UPON YOUR REVIEW OF GEORESULTS OUTPUTS IN OTHER STATES, DOES GEORESULTS PROVIDE SUFFICIENT INFORMATION TO DETERMINE WHETHER CLECS ARE PROVIDING SERVICE CONSISTENT WITH THE SELF-PROVISIONING OR WHOLESALE TIGGERS?

A. No. GeoResults produces a lengthy list of companies for which it identifies as "Lit CLECs", including retail establishments, banks, enterprise customer locations, paging companies, and long distance resellers. It does not appear to have the intelligence to distinguish actual fiber facilities from those using another carrier's facilities.

Q. HAS ANOTHER ILEC ACKNOWLEDGED THAT GEORESULTS FALSELY IDENTIFIES CLECS AS PRESENT IN BUILDINGS WHEN THEY ACTAULLY ARE NOT?

A. Yes. For example, in Illinois, SBC testified that GeoResults had identified *** **BEGIN CONFIDENTIAL** *** 7 buildings as being served by MCI that MCI, in fact, did not serve. *** **END CONFIDENTIAL** *** ***See*** Testimony of Rebecca L. Sparks on Behalf of SBC Illinois, Illinois Commerce Commission, Docket No. 03-0596, at 17 (Feb. 4, 2004).

Q. DO YOU HAVE SPECIFIC DOUBTS AS TO WHETHER CERTAIN CLECS LISTED BY BELLSOUTH COULD QUALIFY AS TRIGGERS?

A. Yes. For example, *** **BEGIN CONFIDENTIAL** *** DSLNet is a provider of DSL services based in Connecticut. As a DSL provider, it leases copper loop facilities from BellSouth, and places its own electronics to derive broadband services. It is unlikely that DSLNet would own any fiber loops. Another example is IDT/Winstar. Winstar was a service provider using fixed wireless technologies to provide last-mile communications, but also used ILEC-provided special access to augment its service offerings. IDT is an interexchange carrier that provides IP-based long distance services. It is unlikely that IDT would also own any fiber loops. *** **END CONFIDENTIAL** *** Clearly, if BellSouth identified these companies based on GeoResults, then the methodology used by GeoResults must be called into question.

Q. HOW SHOULD THE GEORESULTS DATA BE USED IN THE TRIGGER ANALYSES?

A. The data could be used to develop a baseline list of buildings, which then could be presented to the CLECs. The CLECs, in turn, could validate whether the information contained in GeoResults is accurate and whether

they are providing the appropriate type and capacity level of service required by the triggers.

Q. HOW SHOULD THE TRA PROCEED BASED UPON THE EVIDENCE PROVIDED?

A. I recommend that the Authority request further information from the trigger CLECs for the 9 buildings that I have identified as potentially meeting the triggers. Such information includes identifying whether the CLECs are currently self-provisioning DS3 loops at the location, whether they are doing so as part of an OC(n) or 3 DS3 level of demand, and whether they have access to all customers in the building.

B. DEDICATED TRANSPORT

Q. HAVE YOU REVIEWED BELLSOUTH'S TESTIMONY CONCERNING THE APPLICATION OF THE SELF-PROVISIONING TRIGGER TO DEDICATED TRANSPORT ROUTES?

A. Yes, I have reviewed the testimony of Shelley W. Padgett beginning on page 17.

Q. WHAT WERE BELLSOUTH'S CONCLUSIONS REGARDING THE SELF-PROVISIONING TRIGGER ANALYSIS FOR DEDICATED TRANSPORT?

A. BellSouth has asserted that 81 transport routes satisfy the self-provisioning trigger for DS3 service and for dark fiber. The routes are listed in Attachment SWP-8 to Ms. Padgett's testimony.

Q. WHAT WAS THE PROCESS THAT BELLSOUTH USED TO IDENTIFY DEDICATED TRANSPORT ROUTES THAT IT CLAIMS SATISFY THE SELF-PROVISIONING TRIGGER?

A. Similar to her process for loops, BellSouth witness Padgett developed a list of wire centers at which competitive providers have established collocation arrangements based upon information that BellSouth gathered in discovery and through examining its own collocation records. BellSouth then assumed that transport routes exist between each and every collocation arrangement within a given LATA for each individual carrier for both the DS3 and dark fiber capacity levels.

Q. DID BELLSOUTH PERFORM THE APPROPRIATE ANALYSIS TO DEMONSTRATE THAT THE SELF-PROVISIONING TRIGGERS WERE SATISFIED FOR DEDICATED TRANSPORT?

A. No. BellSouth's analysis relies almost exclusively upon the "connect the dots" approach, in which it simply asserts that a transport route exists between each and every CLEC wire center, even if the CLEC itself denies or does not indicate that it provides a dedicated transport route between the two wire centers. I have reviewed the discovery responses that CLECs

have submitted in this proceeding. I have compared the list of transport routes that CLECs have identified in their discovery responses with the transport routes that BellSouth has identified as being served by those CLECs. As I discuss below, as a result of this review, I have compiled a list of transport routes – of the routes that BellSouth claims that satisfy the self-provisioning trigger – that potentially could satisfy this trigger. *See* Exhibit GJB-2. In Exhibit GJB-2, I have identified CLECs that BellSouth claims are trigger candidates despite their statements that they do not provide dedicated transport with the notation "NR " Even for those CLECs that indicate they may be capable of providing transport, BellSouth has not provided any evidence that those CLECs are self-provisioning at the DS3 capacity level. These CLECs are indicated with a "?" in Exhibit GJB-2.

Q. WERE YOU ABLE TO REVIEW ANY OF THE CLEC DATA RESPONSES FOR TRANSPORT?

A. Yes. I reviewed the responses of *** **BEGIN CONFIDENTIAL** *** AT&T, MCI, XO, EPB, Time Warner, Memphis Networkx. Of these carriers, only XO, Time Warner, and Memphis Networkx acknowledge some capabilities of providing dedicated transport, and, contrary to Ms. Padgett's assertions, MCI acknowledges that it is not able to confirm that it does not provide dedicated transport with regard to routes between several central offices in Tennessee; in each cases, these carriers did not indicate

that they self-provision at the DS3 or dark fiber capacity levels on any of the routes. BellSouth included Adelphia and SBC *** **END CONFIDENTIAL** *** as triggers on numerous routes based solely upon BellSouth's own collocation records.

Q. DID BELLSOUTH IDENTIFY CARRIERS AS SELF-PROVISIONING DEDICATED TRANSPORT EVEN THOUGH THE CARRIER DENIED SELF-PROVISIONING DEDICATED TRANSPORT ALONG ANY ROUTE?

A. Yes. *** **BEGIN CONFIDENTIAL** *** BellSouth identified AT&T, EPB, and KMC *** **END CONFIDENTIAL** *** as trigger candidates despite the fact that each of these carriers denied providing any transport between BellSouth wire centers whatsoever.

Q. ARE THERE TRANSPORT ROUTES THAT COULD QUALIFY FOR THE SELF-PROVISIONING TRIGGER IF ALL OF THE QUESTION MARKS BECAME REALITY?

A Yes. There are 28 routes in Memphis that could conceivably meet the self-provisioning trigger. *See* Exhibit GJB-2. These routes would satisfy the self-provisioning trigger only if *** **BEGIN CONFIDENTIAL** *** XO, Time Warner, and Memphis Networkx *** **END CONFIDENTIAL** *** each self-provisioning dedicated transport at the DS3 capacity level

on these routes. Each of these CLECs would need to provide further information to make this determination.

Q. HOW DID YOU ARRIVE AT THE DETERMINATION THAT 28 DEDICATED TRANSPORT ROUTES MIGHT SATISFY THE FCC'S SELF-PROVISIONING TRIGGER?

A. I reviewed the CLEC discovery responses submitted in this proceeding, and I compared those discovery responses with the dedicated transport routes that BellSouth claims satisfy the self-provisioning trigger. As an initial matter, as I stated above, I determined whether the carrier stated that it provided dedicated transport. If the carrier denied providing dedicated transport (such as *** **BEGIN CONFIDENTIAL** *** AT&T, EPB, and KMC *** **END CONFIDENTIAL** ***), then I removed those carriers from BellSouth's route list. I then compared the list of routes along which the carriers themselves stated that they provisioned dedicated transport (for example, for *** **BEGIN CONFIDENTIAL** *** MCI and XO *** **END CONFIDENTIAL** ***) with the list of routes that BellSouth claimed that carrier served. I then compared the capacity level at which BellSouth claimed the carrier self-provisioned dedicated transport along the route with the responses that the carriers themselves provided. After performing each of these steps, I identified the routes where there are three or more carriers that potentially self-provide dedicated transport along the route at the capacity level listed therein.

Q. IS IT APPROPRIATE FOR BELLSOUTH TO IDENTIFY A ROUTE BASED SOLELY UPON ITS COLLOCATION RECORDS?

A. No. BellSouth does not have enough information to make a determination that a transport route satisfies the self-provisioning trigger based solely on its collocation records. For example, collocation records do not indicate whether the carrier actually is providing a transport service between those collocations. Nor does BellSouth have information regarding the capacity level at which the carrier provides service, if any, or whether the service is self-provisioned or wholesale.

Q. SHOULD BELLSOUTH HAVE INCLUDED ALL OF THESE CLECS AS TRIGGERS BASED UPON YOUR REVIEW OF THEIR DATA RESPONSES.

A. No. It is inappropriate to include any of the CLECs that do not acknowledge self-provisioning transport between the ILEC wire centers. As I explained earlier in my testimony, "connecting the dots" between CLEC collocation arrangements is not an appropriate means of identifying self-provisioned transport routes.

Q. HOW SHOULD THE TRA PROCEED WITH THE EVIDENCE PROVIDED?

A. The TRA should request further information from *** **BEGIN CONFIDENTIAL** XO, Time Warner, and Memphis Networkx *** **END**

CONFIDENTIAL *** to determine whether these CLECs are actually self-provisioning dedicated transport between each wire center indicated on Exhibit GJB-2 at the DS3 or dark fiber capacity level consistent with the requirements of the *TRO*.

III. CRITIQUE OF BELLSOUTH FLORIDA WHOLESALE TRIGGER ANALYSES

A. HIGH CAPACITY LOOPS

Q. HAVE YOU REVIEWED BELLSOUTH'S TESTIMONY CONCERNING THE APPLICATION OF THE WHOLESALE TRIGGER TO HIGH CAPACITY LOOPS?

A. Yes, I have reviewed the testimony of Shelley W. Padgett beginning at page 12.

Q. WHAT WERE BELLSOUTH'S CONCLUSIONS REGARDING THE WHOLESALE TRIGGER ANALYSIS?

A. BellSouth has asserted that the same buildings that it claimed for the self-provisioning trigger also satisfy the wholesale facilities trigger, with the exception of several buildings that it claims do not satisfy the wholesale trigger at the DS1 capacity level (Bellsouth claimed only 33 locations for DS1, compared to 37 for DS3). The customer specific locations are listed in Attachment SWP-3 to Ms. Padgett's testimony.

Q. WHAT WAS THE PROCESS BELLSOUTH USED TO IDENTIFY THE BUILDINGS THAT IT CLAIMS SATISFY THE WHOLESALE TRIGGER?

A. On page 13 of Ms. Padgett's testimony, Ms. Padgett lists the broad range of sources that she used to identify carriers as wholesalers, including CLEC discovery responses, BellSouth's "experience" in losing wholesale contracts, carriers' advertisements, carriers' public statements, and analyst and industry reports. Ms Padgett then continues with a creative assertion that the carrier does not even have to be currently selling wholesale service to qualify for the wholesale trigger. Instead, according to Ms. Padgett, the carrier simply needs to express some sort of "willingness" to provide wholesale services. Under BellSouth's view, everyone is a wholesaler, whether they realize it or not.

Q. DOES THE *TRO* ALLOW FOR CLECS TO BE DECLARED WHOLESALERS AGAINST THEIR WILL?

A. No The intent of the *TRO* and the wholesale triggers is to identify locations where CLECs have made an affirmative business decision to provide wholesale services, and have implemented the appropriate network configurations and back office support systems to provide a comparable service to that provided by the UNE that is being replaced. In paragraph 337 of the *TRO*, the FCC provides the numerous requirements that a CLEC must meet to be a wholesaler for the purposes of the trigger:

"where the relevant state commission determines that two or more unaffiliated alternative providers...offer an equivalent wholesale loop product at a comparable level of capacity, quality, and reliability, have access to the entire multiunit customer premises, and offer the specific type of high-capacity loop over their own facilities on a widely available wholesale basis to other carriers desiring to service customers at that location, then incumbent LEC loops at the same loop capacity level serving that particular building will no longer be unbundled." Clearly, the FCC is intending to identify CLECs who have chosen to provide wholesale service to the given locations, and have implemented the necessary network and back-office systems to provide such services.

Q. DID THE FCC REQUIRE EVIDENCE OF BACK OFFICE SUPPORT SYSTEMS TO QUALIFY A CLEC AS A WHOLESALER?

A. Yes. In making its determination that there is "scant evidence of wholesale alternatives for serving customers at the DS1 level" in paragraph 325, the FCC concluded that, "[t]he record indicates that even competitive carriers that have deployed their own loop facilities do not have the back office support systems in place that are necessary to offer any excess capacity on a wholesale basis to other competitive LECs." (see footnote 958).

Q. WHY IS IT IMPORTANT THAT THE WHOLESALE TRIGGER BE TREATED SEPARATELY FROM THE SELF-PROVISIONING TRIGGER AND THAT CARE BE TAKEN TO AVOID INCORRECTLY LABELING A CARRIER AS A WHOLESALER?

A. Unlike the self-provisioning trigger, the wholesale trigger includes access to loops at the DS1 capacity level, meaning that CLECs potentially could be denied access to those loops if the wholesale trigger were met despite the FCC's finding that it is practically impossible for a CLEC to economically provision a standalone DS1 loop. DS1 loops are the primary means of provisioning service to medium-size enterprise customers for CLECs, and denial of DS1-loops would be a severe impediment to the CLEC's ability to provide competitive services.

Q. HAVE YOU BEEN ABLE TO NARROW THE NUMBER OF BUILDINGS THAT POTENTIALLY COULD MEET THE WHOLESALE TRIGGER?

A. Yes. I have reviewed the CLECs' discovery responses and compared those responses against the list of customer locations that BellSouth claims satisfy the wholesale trigger. *See* Exhibit GJB-3. Based on this review, there are two buildings that potentially satisfy the wholesale trigger for DS3 loops and one building that may meet the wholesale trigger for DS1 loops.

Q. WHAT STEPS DID YOU TAKE TO CREATE THE LIST OF BUILDINGS THAT POTENTIALLY SATISFY THE WHOLESALE TRIGGER?

A. As I stated above, I reviewed the discovery responses submitted in this proceeding. As a threshold matter, I determined whether the carrier stated that it provided wholesale loops. If a carrier denied providing wholesale loops, then I removed that carrier from BellSouth's list of customer locations. I then determined whether the carrier listed in its discovery responses the building that BellSouth claimed it served. I also reviewed the capacity levels at which the carrier stated that it provided wholesale service. At the end of these inquiries, there were two buildings that had two or more CLECs that potentially provided wholesale service at the DS3 capacity level and one building that had two or more CLECs that potentially provided wholesale service at the DS1 level. I did not have access to the customer location lists (if they have been filed in this proceeding) of *** **BEGIN CONFIDENTIAL** *** ICG, Memphis Networkx, or Kentucky Data Link *** **END CONFIDENTIAL** ***. If it turns out that these carriers are offering wholesale loops at the relevant capacity levels to the buildings BellSouth indicated, these numbers could be slightly higher.

Q. WHAT ADDITIONAL STEPS NEED TO BE TAKEN TO ENSURE THAT THE BUILDINGS IDENTIFIED ACTUALLY WOULD MEET THE WHOLESALE TRIGGER?

A. Similar to the self-provisioning trigger, the CLEC must be able to serve all customers in the building, and must be willingly offering wholesale loops at the building at the relevant capacity level to other CLECs. Additionally, it must be validated that the CLEC's wholesale offering is widely available to competitors on a nondiscriminatory basis, and that the CLEC has the necessary back office systems to support the provision of wholesale loops service.

Q. DID BELLSOUTH PROPERLY VERIFY THE AVAILABILITY OF DS1 LOOP SERVICES ON A WHOLESALE BASIS FOR THE BUILDINGS IT LISTED?

A. No. According to BellSouth witness Padgett, BellSouth made an assumption that any existing fiber facility can provide DS1 level service, and that the appropriate level of customer demand exists to support standalone DS1 loops. This assumption is incorrect. DS1-level service only can be provided when a fiber facility has been equipped with the appropriate electronics, including an optical multiplexer with the capability of provisioning DS1 channels. The FCC was very clear in its requirement that wholesale service must be available at the specific capacity level in order for the trigger to be satisfied.

Q. DID THE FCC ANTICIPATE THAT A VERY SMALL NUMBER OF BUILDINGS WOULD SATISFY THE WHOLESALE TRIGGERS?

A. Yes. In paragraph 338 of the TRO, the FCC stated, "[w]e recognize that, while the record indicates that there are presently a limited number of alternative wholesale loop providers serving multiunit premises, we anticipate that a competitive market will continue to *develop*." (emphasis added).

B. DEDICATED TRANSPORT

Q. HAVE YOU REVIEWED BELLSOUTH'S TESTIMONY CONCERNING THE APPLICATION OF THE WHOLESALE TRIGGER TO DEDICATED TRANSPORT ROUTES?

A. Yes, I have reviewed the testimony of Shelley W. Padgett beginning on page 29 of her testimony.

Q. WHAT WERE BELLSOUTH'S CONCLUSIONS REGARDING THE WHOLESALE TRIGGER ANALYSIS?

A. BellSouth has asserted that the same number (81) routes it asserted meet the self-provisioning trigger also meet the wholesale triggers for DS3 and DS1, and that 75 routes meet the wholesale trigger for dark fiber. The

transport routes with the trigger CLECs are listed on Attachment SWP-8 to Ms. Padgett's testimony.

Q. PLEASE DESCRIBE THE PROCESS BELLSOUTH USED TO IDENTIFY DEDICATED TRANSPORT ROUTES THAT IT CONTENDS SATISFY THE WHOLESALE PROVISIONING TRIGGER.

A. BellSouth used the same "connect the dots" approach to collecting data that I described above in my critique of the self-provisioning trigger, and used the same broad-brush approach to identify wholesale service providers as it used for loops, essentially assuming without supporting evidence that every competitive transport provider is providing wholesale on each and every route.

Q. DOES BELLSOUTH HAVE AN INCENTIVE TO BE OVERLY BROAD IN ITS IDENTIFICATION OF WHOLESALE TRANSPORT ROUTES?

A. Yes. First, similar to the wholesale trigger for loops, routes that meet the wholesale trigger also are eligible to have DS1-level transport delisted, which is not possible under the self-provisioning trigger. Additionally, since the wholesale trigger for dedicated transport only requires evidence of two competing providers, as opposed to the three for the self-provisioning trigger, BellSouth can increase the total number of routes to

be delisted if it can certify that the providers are wholesalers instead of self-provisioners.

Q. DOES BELLSOUTH'S ANALYSIS OF THE WHOLESALE TRIGGERS FOR TRANSPORT SATISFY THE FCC REQUIREMENTS?

A. No. BellSouth's analysis of the wholesale trigger for transport incorporates all of the flaws of the self-provisioning analysis mentioned above. Additionally, similar to the wholesale loop triggers, BellSouth declared *** **BEGIN CONFIDENTIAL** *** AT&T and KMC *** **END CONFIDENTIAL** *** as wholesalers even though they specifically denied providing wholesale services.

Q. HOW MANY ROUTES MAY BE ELIGIBLE FOR THE WHOLESALE TRIGGER?

A. Based on my review of the CLEC data responses, the same 28 routes I identified as potentially satisfying the self-provisioning trigger potentially also qualify for the wholesale trigger.

Q. WHAT FURTHER INFORMATION WOULD NEED TO BE GATHERED TO MAKE A DETERMINATION AS TO WHETHER ANY OF THESE 28 ROUTES ACTUALLY MEET THE WHOLESALE TRIGGER?

A. First, an evaluation must be made as to whether the CLECs are currently equipped and operationally ready to provide dedicated transport on the route at the relevant capacity level. Second, evidence must be gathered as to whether the CLEC is willing and capable of immediately providing wholesale service to another CLEC, including whether the CLEC has implemented all of the necessary back office systems necessary to provide such a service.

IV. POTENTIAL DEPLOYMENT ANALYSIS FOR HIGH-CAPACITY LOOPS AND DEDICATED TRANSPORT

Q. PLEASE DESCRIBE WHAT IS MEANT BY POTENTIAL DEPLOYMENT.

A. The potential deployment analysis essentially provides that BellSouth may attempt to demonstrate that no impairment exists for loop locations or transport routes even though the self-provisioning trigger has not been satisfied.

Q. ARE DS1-CAPACITY LEVEL LOOPS AND TRANSPORT ELIGIBLE FOR A POTENTIAL DEPLOYMENT CLAIM?

A. No. The FCC defined potential deployment as a theoretical substitute for the self-provisioning trigger. As such, only those capacity levels eligible for the self-provisioning trigger (DS3 and dark fiber) are eligible for potential deployment claims.

Q. CAN AN ILEC MAKE A GENERAL CLAIM FOR POTENTIAL DEPLOYMENT, SUCH AS A CLAIM THAT NO IMPAIRMENT EXISTS FOR ALL BUILDINGS SERVED OUT OF A WIRE CENTER?

A. No. The FCC's language is clear that potential deployment claims must be location- or route-specific.

Q. WHAT TYPE OF DEMONSTRATION MUST BELLSOUTH MAKE TO SUCCESSFULLY PROVE NO IMPAIRMENT EXISTS AT A LOCATION OR ROUTE EVEN THOUGH THE TRIGGERS HAVE NOT BEEN MET?

A. BellSouth must demonstrate *for each specific customer location and route* that, contrary to the FCC's impairment determination, multiple competitive providers would be able to overcome the significant operational and economic barriers identified by the FCC and still be able to compete successfully. BellSouth therefore must demonstrate that the competitive providers would earn sufficient revenues relative to their significant fixed and sunk costs of providing dark fiber loops or transport, and fewer than two DS3s of traffic for loops or 12 DS3s of traffic for transport (the maximum amount of capacity that CLECs may purchase as UNEs) or dark fiber loops and dedicated transport to cover the costs. Again, this demonstration must be location-specific.

Q. WHAT ARE THE FACTORS THAT BELLSOUTH MUST DEMONSTRATE TO THE TRA TO SATISFY THE POTENTIAL DEPLOYMENT TEST FOR HIGH CAPACITY LOOPS TO A SPECIFIC CUSTOMER LOCATION?

A. In paragraph 335 of the *TRO*, the FCC requires that "when conducting its customer location specific analyses, a state must consider and may also find no impairment at a particular customer location even when this trigger has not been facially met *if* the state commission finds that no material economic or operational barriers at a customer location preclude competitive LECs from economically deploying loop transmission facilities to that particular customer location at the relevant loop capacity level. In making a determination that competitive LECs *could* economically deploy loop transmission facilities at that location at the relevant capacity level, the state commission must consider numerous factors affecting multiple CLECs' ability to economically deploy facilities at that particular customer location." In the *TRO*, the FCC then lists the following factors:

- Evidence of alternative loop deployment at that particular customer location;
- Local engineering costs of building and using transmission facilities;
- The cost of underground or aerial laying of fiber or copper;
- The cost of equipment needed for transmission;

- Installation and other necessary costs involved in setting up service;
- Local topography such as hills and rivers;
- Availability of reasonable access to rights-of-way;
- Building access restrictions/costs; and
- Availability/feasibility of similar quality/reliability alternative transmission technologies at that particular location.

TRO ¶ 335.

Q. WHAT ARE THE FACTORS THAT BELLSOUTH MUST DEMONSTRATE TO THE TRA TO SATISFY THE POTENTIAL DEPLOYMENT TEST FOR DEDICATED TRANSPORT ROUTES?

A. For transport, the FCC also found that actual deployment is the best indicator of impairment, but noted that a state commission must also consider potential deployment for a particular route "that it finds is suitable for 'multiple, competitive supply,' but along which [the actual deployment] trigger is not facially satisfied." *Id.* ¶ 410 The factors that the TRA must evaluate for transport are similar to those for loops and include the following characteristics:

- Local engineering costs of buildings and utilizing transmission facilities;
- The cost of underground or aerial laying of fiber;
- The cost of equipment needed for transmission;
- Installation and other necessary costs involved in setting up service;
- Local topography such as hills and rivers;

- Availability of reasonable access to rights-of-way;
- The availability or feasibility of alternative transmission technologies with similar quality and reliability;
- Customer density or addressable market; and
- Existing facilities-based competition.

TRO ¶ 410.

Each of these characteristics must be evaluated in the potential deployment analysis. For that reason, an ILEC that claims that CLECs are not impaired without access to UNEs in serving a specific route will need to introduce evidence with respect to each factor that demonstrates that the factor alone, or in combination with others, does not operate as a barrier to the CLECs' ability to deploy the facilities in question.

Q. WITH RESPECT TO BOTH HIGH CAPACITY LOOPS AND DEDICATED TRANSPORT, WHAT SORT OF EVIDENCE MUST BELLSOUTH OFFER WITH RESPECT TO CAPACITY LEVELS?

A. Any evidence an ILEC presents on potential deployment necessarily will have to address the limitations on the availability of UNEs that are *already built* into the FCC's new unbundling rules. Thus, with respect to loops, BellSouth's factual showing and analysis concerning potential deployment needs to explain how CLECs are not impaired in their ability to deploy dark fiber loops or up to two DS3 loops at a specific customer location. *TRO* ¶ 324. Similarly, with respect to transport, BellSouth's analysis must reflect the FCC's decision that CLECs are impaired without unbundled

access to dark fiber transport and twelve or fewer DS3s of transport along any given transport route. *TRO* ¶ 388.

Q. DO YOU THINK IT IS LIKELY THAT MOST ILECS WOULD BE ABLE TO MAKE THIS SORT OF SHOWING?

A. It is difficult to see how an ILEC would make such a detailed and site-specific showing. The FCC already has restricted the availability of loop and transport UNEs by placing strict limits on the capacity levels (2 DS3s for loops, 12 DS3s for transport) that any individual CLEC may obtain at a given location. The record before the FCC contained overwhelming evidence, summarized in the *TRO*, that CLECs remain impaired without the limited access granted by the *TRO* to UNEs at these lower-capacity levels, because "the potential revenue stream associated" with lower-capacity facilities "is many times smaller than that" of a higher-capacity facility. *TRO* ¶ 320 n.945. These lower revenues are highly unlikely to cover the high fixed and sunk costs of facilities deployment, *id* , and compound the "other economic and operational barriers" that CLECs face in deploying their own facilities. *TRO* ¶ 320 & n. 946; *see, e g.*, *TRO* ¶¶ 205-07, 298-99 & n.860, 302-06, 324-27 & n.954, 360, 370-71, 376, 381-93, 399 Moreover, loop economics depend upon certain best-case assumptions – such as the existence of a fiber transport ring with an access point (that is, a point where a lateral line may be attached to an add/drop multiplexer to allow interconnection between the loop facility and the

fiber ring) close to the building in question – that may not be satisfied at any given location. Finally, no one seriously contests that "build it and they will come" is anything but a failed entry strategy, and that CLECs therefore need access to UNEs or wholesale capacity at some minimum threshold level in order to obtain a customer base sufficient to support the building of their own facilities.

Therefore, to demonstrate potential deployment in accordance with the *TRO*, the ILEC would have to show – for each particular building or transport route – that the revenues available to a CLEC at that location would be sufficient to overcome the fixed and sunk costs of constructing a facility at that location (taking into account all the location-specific variables listed by the FCC) that affect those costs and revenues. In addition, the ILEC's evidence also would need to show that no other economic and operational barriers exist for the particular location or route in question. The inherent limitations of fixed, low-capacity facilities to generate adequate revenues to cover the high costs of loop deployment make it highly unlikely that any ILEC could make the requisite showing for any individual location or route. And the universal nature of entry barriers such as gaining necessary rights of way, gaining adequate building access, deploying the facilities, and convincing customers to accept the delays inherent in service provided over new facilities, make it even more doubtful that ILECs could provide evidence for *specific* locations that would overcome the FCC's findings of impairment and

demonstrate instead that there could be "multiple competitive supply" so that competition can be effectively served by denying CLECs access to unbundled facilities at locations where CLECs have not found it economical or desirable to deploy their own facilities.

V. CRITIQUE OF BELLSOUTH FLORIDA POTENTIAL DEPLOYMENT ANALYSIS

A. HIGH CAPACITY LOOPS

Q. HAVE YOU REVIEWED BELLSOUTH'S TESTIMONY CONCERNING THE APPLICATION OF THE POTENTIAL DEPLOYMENT ANALYSIS TO HIGH CAPACITY LOOPS?

A. Yes, I have reviewed the testimony of Aniruddha (Andy) Banerjee.

Q. WHAT WERE THE CONCLUSIONS OF THE POTENTIAL DEPLOYMENT ANALYSIS AS PROVIDED BY BELLSOUTH?

A. BellSouth, through Dr. Banerjee's testimony, has asserted that 225 customer locations satisfy the potential deployment analysis for high capacity loops.

Q. DO YOU BELIEVE IT IS CREDIBLE THAT THERE ARE ALMOST SEVEN TIMES MORE BUILDINGS THAT BELLSOUTH CLAIMS QUALIFY FOR POTENTIAL DEPLOYMENT THAN BELLSOUTH IDENTIFIED FOR SELF-PROVISIONING?

A. No. The current scope of CLEC networks represents more than 10 years of laborious efforts by individual companies, who have pieced together their networks building by building, working through the myriad issues facing companies that perform construction tasks in major city areas. At most of those buildings for which some form of service is being provided, installation of CLEC facilities were most likely economically justified based upon the provision of OC(n) level services. Also, it is likely that the remaining buildings (the ones not served by CLEC facilities) either are not as attractive due to the type of customers in the building, or the competitive providers have been dissuaded from entry due to other barriers such as building access or other building-specific issues. Finally, in the current financial environment, competitive carriers do not have the same level of available financing as they did in the previous years to justify new construction. It defies the realities of today's telecommunications marketplace – as well as basic common sense – to believe that, with all of these considerations, CLECs would be able to economically build out to even a small percentage of the buildings listed by BellSouth for the sole purpose of provisioning only one or two DS3s of capacity or providing dark fiber, let alone six times that number of buildings.

Q. PLEASE DESCRIBE, BASED UPON WITNESS BANERJEE'S TESTIMONY, THE PROCESS BELLSOUTH USED TO

DETERMINE THAT 225 BUILDINGS SATISFIED THE POTENTIAL DEPLOYMENT ANALYSIS FOR HIGH CAPACITY LOOPS.

A. Mr. Banerjee developed a list of buildings that had a monthly "telecommunications spend" of $5,000 or more, or $60,000 annually. To obtain an estimate of building spending levels, Mr. Banerjee used data it obtained from TNS Telecoms, a third-party market research firms. For each building, Mr. Banerjee then performed what he described as a net present value analysis on each building based upon hypothetical cost assumptions. Buildings that had a positive net present value based upon his assumptions were then presumed to pass the potential deployment analysis.

Q. DO YOU BELIEVE THAT THE PROCESS BELLSOUTH USED COMPLIES WITH THE STANDARDS THE FCC SET FORTH IN THE *TRO*?

A. No. Even before any analysis of the cost or revenue information provided by BellSouth is considered, it appears that BellSouth simply is performing the wrong analysis. Instead of identifying those buildings for which the costs of providing 2 DS3 loops is less than the expected revenues, BellSouth appears to have identified buildings for which it believes there is a demand for at least 3 DS3s. These locations are not relevant to the

analysis, as the FCC has already made the determination that no impairment exists for locations that demand 3 or more DS3s.

Q. WHAT IS THE BASIS OF YOUR BELIEF THAT BELLSOUTH IS IDENTIFYING BUILDINGS THAT HAVE DEMAND FOR AT LEAST 3 DS3'S WORTH OF CAPACITY?

A. Typically, the monthly revenue associated with an individual DS3 loop is in the range of $1,000 to $2,000 depending upon how long a commitment a customer makes. If it is assumed that a CLEC will receive at least $5,000 per month, that is indicative of at least 3 DS3s, for which the FCC has already concluded that sufficient revenue exists to recover the cost of loop deployment.

Q. CAN YOU PROVIDE AN EXAMPLE OF HOW AN APPROPRIATE ANALYSIS SHOULD HAVE BEEN PERFORMED?

A. Yes. Assuming a CLEC could expect to receive $15,000 per year in revenue for a DS3 loop, the maximum revenue it could receive for two DS3s would be $30,000 per year. The potential deployment analysis would then attempt to locate buildings such that a CLEC's annualized cost of deploying loops, as defined through the FCC's factors, does not exceed $30,000.

Q. APART FROM THE MISGUIDED APPROACH AND LACK OF GRANULARITY IN BELLSOUTH'S ANALYSIS, WHAT ARE SOME OF THE SPECIFIC CRITICISMS YOU HAVE OF BELLSOUTH'S APPROACH ON LOOP POTENTIAL DEPLOYMENT?

A. I have several specific criticisms. First, BellSouth does not analyze any of the building-specific factors listed in the *TRO* for any of the buildings it has identified. Second, BellSouth's use of a building's "total telecom spend" is an inappropriate means of identifying potential buildings, and it is also inappropriate to assume the "total telecom spend" of a building as potential revenue a CLEC could expect to receive. Third, the cost figures BellSouth relies upon are flawed, in that they assume practically no cost of fiber construction. Finally, several key assumptions used in Mr. Banerjee's Net Present Value analysis, notably the project life and discount rates, are inappropriate and have the result of inflating the resulting net present value of each building location.

Q. DO YOU BELIEVE THAT THE PROCESS BELLSOUTH USED COMPLIES WITH THE GUIDANCE THE FCC PROVIDED IN THE *TRO*?

A. No. BellSouth's process is the exact opposite of what the FCC specified in the *TRO*. The FCC made clear that, with respect to both the triggers and to potential deployment analysis, "a more granular analysis should be

applied on a *customer-by-customer location basis*." *TRO* ¶ 328 (emphasis added). It bears repeating that this granular analysis was to be conducted on a building-by-building basis in order to identify those limited instances in which multiple alternative loop deployment was possible even though it had not yet taken place. BellSouth, however, has attempted to "de-granularize" this analysis by instead developing a list of generic criteria that it then applied equally to hundreds of customer locations. But these generic criteria do not address or even take into account, the specific factors identified in the *TRO*. For example, two factors that the *TRO* requires to be evaluated for each building are (1) availability of rights-of-way and (2) building access restrictions; BellSouth's testimony does not evaluate these factors for even a single building on its potential deployment list.

Q. IS BELLSOUTH'S USE OF A BUILDING'S ESTIMATED TOTAL ANNUAL TELECOMMUNICATIONS SPENDING, IN THIS INSTANCE $60,000, AN APPROPRIATE WAY OF IDENTIFYING BUILDINGS FOR THE POTENTIAL DEPLOYMENT ANALYSIS?

A. No. The appropriate approach should be to determine whether a building has sufficient demand for DS3 or dark fiber loops to allow for multiple, competitive supply into the building. A large building (or even a single customer in that building) easily could surpass the $60,000 threshold without having any demand whatsoever for DS3 or dark fiber loops.

BellSouth should have the capability based upon its own customer records to determine which buildings actually have a demand for the specific capacity levels, the number of which should be significantly less than the quantity meeting the $60,000 threshold.

Q. IS IT APPROPRIATE TO USE THE $60,000 ESTIMATED TOTAL BUILDING TELECOMMUNICATIONS SPENDING AMOUNT AS A POTENTIAL REVENUE STREAM CLECS COULD EXPECT TO RECEIVE TO OFFSET THEIR COST OF LOOP CONSTRUCTION?

A. No. Consistent with the capacity-specific nature of the analysis, the only revenues that should be considered are those specific to the building of individual DS3s or dark fiber loops. This is consistent with the FCC's determination as mentioned above that "the potential revenue stream associated" with lower-capacity facilities "is many times smaller than that" of a higher-capacity facility. *TRO* ¶ 320 n.945. Notably, the view here must be of a carrier that has the opportunity to obtain access to UNEs (otherwise an impairment review is unnecessary). Thus, since a requesting carrier may only obtain up to 2 DS3s at UNE rates per customer location, the question is whether that carrier – not a carrier seeking to serve a larger demand – could afford to self-deploy its own facilities to serve at that level. Accordingly, any reference to a "total building revenue" is inappropriate. That figure certainly would contain

revenues other than those for the specific one or two DS3s that a requesting carrier could obtain as a UNE, and can be expected to include potential OC(n) circuits, long distance service, and data services, and, as a result, improperly skews such analysis. If the total revenues for such services were to be included in an potential deployment analysis, without access to specific revenues available from specific uncommitted customers in a location, the TRA only could anticipate that they would generate average revenues for services provided over such facilities. BellSouth does not offer proof of either. Moreover, if total revenues from the use of a loop are to be considered, then the analysis must consider all of the costs of providing all services over such facilities. BellSouth also fails to produce this evidence. Moreover, this revenue figure does not consider that enterprise customers in commercial buildings are generally tied up in long-term contracts that make them economically unavailable for a competitive provider.

Since loops are used as an input to other services and represent only a small portion of the facilities needed to provide entire high capacity services to enterprise customers, it would be both reasonable and consistent to measure the costs of provisioning such facilities against the revenues that a CLEC could earn by providing DS3s or dark fiber as a wholesale offering. It is also consistent with CLEC "build or buy" analyses for an individual building. For example, a CLEC's decision to replace an existing special access line into a building with the CLEC's

own DS3 loop is driven solely by whether the cost to provision its own loop is less than the cost of purchasing the special access line.

Q. DOES DR. BANERJEE'S ANALYSIS USE ANY BUILDING SPECIFIC COSTS FOR HIS POTENTIAL DEPLOYMENT ANALYSIS?

A. No. Dr. Banerjee's analysis uses two primary cost sources for his analysis: hypothetical network cost information provided by BellSouth witness Wayne Gray, and hypothetical expense information based upon a proprietary BellSouth marketing model called the BellSouth Analysis of Competitive Entry ("BACE").

Q. IS THE COST INFORMATION PROVIDED BY BELLSOUTH WITNESS GRAY MEANINGFUL IN THE CONTEXT OF THE FCC'S POTENTIAL DEPLOYMENT REQUIREMENTS?

A. No. Mr. Gray provided cost information that was used in developing TELRIC rates. It is important to remember that, unlike typical costing proceedings used to establish UNE rates, the potential deployment analysis requires an evaluation of costs specific to CLECs, who do not have BellSouth's scale, access to buildings, and access to rights-of-way.

Q. WHAT ARE THE KEY ELEMENTS OF THE NETWORK COST INFORMATION AS PRESENTED BY BELLSOUTH WITNESS GRAY?

A. Mr. Gray provides hypothetical network cost information for the optical electronics used to derive a DS3 loop, and a hypothetical per-foot cost estimate of fiber extension.

Q. PLEASE EXPLAIN WHY YOU DO NOT BELIEVE IT IS REASONABLE TO DETERMINE POTENTIAL DEPLOYMENT BASED UPON A HYPOTHETICAL COST FACTOR BASED UPON DISTANCE BETWEEN CLEC FACILITIES AND SPECIFIC BUILDINGS.

A. The use of a hypothetical per-foot cost factor as proposed by BellSouth is flawed because does not take into consideration the location-specific obstacles that might be located between the CLEC's facilities and the building, especially in large city areas. Numerous obstacles and delays almost always occur for projects that involve digging up city streets, and the costs of such endeavors often accumulate to levels much higher than originally expected. Probably the most famous recent example of this is the "Big Dig", a highway renovation project that was recently completed in Boston. That project, which replaced only 7.5 miles of highway, ended up taking 15 years and costing in excess of $14 billion, $10 billion more than originally expected. While this is obviously an extreme example, it

demonstrates that construction and installation of facilities over even short distances in city areas can present much greater economic barriers than will constructing facilities over longer distances in rural areas.

Q. FROM A PRACTICAL PERSPECTIVE, DOES THE COST INFORMATION THAT MR. GRAY PROVIDES MAKE SENSE IN THE CONTEXT OF POTENTIAL DEPLOYMENT?

A. No. Mr. Gray's analysis assumes a total installed investment of $6.60 per foot for a 100 strand fiber, including conduit and pole cost factors. This means that, for a 1,000 foot build, BellSouth is assuming less than $7,000 of construction costs, which reflects practically no construction at all, as construction projects of this type can often run into the hundreds of thousands of dollars depending upon the circumstances.

Q. PLEASE COMMENT ON THE NET PRESENT VALUE ANALYSIS PERFORMED BY DR. BANERJEE.

A. Although Dr. Banerjee appropriately uses a net present value analysis to evaluate the economic viability, the assumptions he uses in the analysis are not reflective of the requirements of the FCC's potential deployment analysis. First, as mentioned above, all of the inputs, both revenue and cost, are hypothetical. Outside of the estimated distance between a CLEC and the building, there is not one building-specific analysis for any of the nine criteria outlined by the FCC. Second, Dr. Banerjee chooses two

unrealistic assumptions for the net present value analysis, both of which increase the resulting net present value for each building.

Q. PLEASE DESCRIBE THE FIRST UNREALISTIC ASSUMPTION DR. BANERJEE USES IN HIS ANALYSIS.

A. Dr. Banerjee choose a 10 year project life for his analysis, meaning that he is assuming that the CLEC will have 10 years of revenue from customers in the building to recover the up front capital costs and ongoing expenses related to the loop. Obviously, the longer the project life, the more revenue there is available to offset the costs.

Q. BASED UPON YOUR EXPERIENCE, IS 10 YEARS AN APPROPRIATE PERIOD TO ASSUME A CLEC WILL BE ABLE TO RETAIN A CUSTOMER?

A. No. Typically, customers are unwilling to commit to contracts greater than 5 years, especially as prices of telecommunications services tend to decline over time due to competition and technological innovation. In my experience, it would be unlikely for a CLEC to allocate capital to a project that did not produce a positive net present value until the 9^{th} or 10^{th} year.

Q. WHAT IS THE SECOND UNREALISTING ASSUMPTION USED IN DR. BANERJEE'S NPV ANALYSIS?

A Dr. Banerjee uses a discount rate of only 10.8%. The discount rate is supposed to reflect the risk-adjusted cost-of-capital of the company making the investment, and is used to reduce the weighting of cash flows farther out into the future for companies with higher risk. The practical effect of a lower discount rate is that cash flows in later years will have more bearing than they would if a higher discount rate were used, and thus provides for a higher net present value.

Q. WHY DO BELIEVE THAT A DISCOUNT RATE OF 10.8% IS UNREASONABLE FOR A CLEC?

A. This discount rate is approximately the same as that ordered of BellSouth in the most recent Florida UNE proceeding, and actually significantly lower than that proposed by BellSouth for itself in those proceedings. As BellSouth is an incumbent local exchange carrier, it's investments are perceived to be less risky relative to CLECs, especially after the numerous CLEC bankruptcies over the past several year.

Q. HOW DID BELLSOUTH REPRESENT ITS OWN COST OF CAPITAL IN THE PREVIOUS UNE PROCEEDING?

A. In Florida Docket No. 990649-TP, BellSouth witness Billingsley testified that the 11.25% cost of capital is BellSouth had proposed is reasonable and conservative given his estimate that BellSouth's actual cost of capital ranges from 14.61% to 14.91%.

Q. ARE YOU AWARE OF ANY OTHER ANALYSES THAT PRESENT A MORE REALISTIC DEPICTION OF THE COSTS AND NECESSARY REVENUES FOR A CLEC TO EXTEND ITS NETWORK INTO A NEW BUILDING?

A. Yes. On November 25, 2002, AT&T filed a study with the FCC, in conjunction with the FCC's Triennial Review proceedings, which analyzes the costs and required revenues necessary to justify extending a typical CLEC's network to a new building The study is included as Exhibit GJB-4 to my testimony. I have reviewed the AT&T study and, based on my experience, I find it presents a more thorough and realistic analysis of the costs that would be encountered and the revenues that would be considered by a CLEC in determining whether to extend a typical CLEC network into a new building than the analysis used by BellSouth in this case.

Q. WHAT WERE THE CONCLUSIONS OF THE AT&T STUDY AS IT PERTAINS TO UNBUNDLED LOOPS?

A. The study concluded that CLECs generally need to be able to provision at least 3 DS3s into a given building before the cost of constructing the loops can be recovered. This is consistent with the FCC's conclusion that no impairment exists for OC(3) and above loops

Q. HOW DO YOU PROPOSE THAT THE AT&T STUDY BE USED BY THE TRA IN EVALUATING BELLSOUTH'S POTENTIAL ANALYSIS?

A. The AT&T study supports the position that it is generally not economic for CLECs to build for the provision of a single DS3 or dark fiber loop to a building, and that any building for which BellSouth claims potential deployment must be treated as a unique exception, which must be supported by a full, building specific analysis.

Q. DID BELLSOUTH PROVIDE EVIDENCE OF ALTERNATIVE LOOP DEPLOYMENT FOR THE 225 BUILDINGS ON ITS LIST?

A. Dr. Banerjee did not indicate which of the buildings on the list had any loop deployment, and if so, how much.

Q. SHOULD ANY OF THE BUILDINGS LISTED BY BELLSOUTH QUALIFY FOR POTENTIAL DEPLOYMENT BASED UPON BELLSOUTH'S SHOWING IN THIS CASE?

A. No. BellSouth's analysis does not meet any of the FCC's criteria for items the TRA must evaluate, and therefore this TRA should find that BellSouth has not satisfied the potential deployment analysis for any of the buildings listed in the attachments to the Banerjee testimony.

Q. HOW SHOULD BELLSOUTH HAVE DONE ITS POTENTIAL DEPLOYMENT ANALYSIS FOR HIGH CAPACITY LOOPS?

A. BellSouth should have performed an individual discounted cash flow analysis using specific cost and potential revenue information for each building instead of hypothetical values. The analysis would provide evidence of alternate loop deployment for each building, and would specifically address each of the FCC's points. The discounted cash flow analysis would use project lives and depreciation rates that a CLEC actually would use for itself if it were really analyzing whether to extend its network out to a new building.

B. DEDICATED TRANSPORT

Q. HAVE YOU REVIEWED BELLSOUTH'S TESTIMONY CONCERNING THE APPLICATION OF THE POTENTIAL DEPLOYMENT ANALYSIS TO DEDICATED TRANSPORT?

A. Yes, I have reviewed the testimony of Dr. Banerjee on this matter.

Q. WHAT WERE THE CONCLUSIONS OF THE POTENTIAL DEPLOYMENT ANALYSIS AS PROVIDED BY BELLSOUTH?

A. BellSouth has asserted that 21 transport routes satisfy the potential deployment trigger, in addition to the routes that it claimed satisfied the self-provisioning and wholesale triggers.

Q. PLEASE DESCRIBE THE PROCESS BELLSOUTH USED TO DETERMINE THAT THESE 21 TRANSPORT ROUTES SATISFY THE POTENTIAL DEPLOYMENT ANALYSIS FOR DEDICATED TRANSPORT?

A. Similar to the analysis used for loops, Dr. Banerjee performed a net present value analysis to compare the potential revenues or cost savings achieved by CLECs to their cost of building out to a new wire center and establishing a collocation arrangement.

Q. DO YOU BELIEVE THAT BELLSOUTH'S POTENTIAL DEPLOYMENT ANALYSIS FOR DEDICATED TRANSPORT IS PROPER?

A. No. Similar to the analysis for loops, Dr. Banerjee did not perform a route-specific analysis for each route that he claims satisfies the FCC's potential deployment criteria. Dr. Banerjee's analysis also is failed because it overstates the revenue associated with the buildout, and relies upon hypothetical cost assumptions that ignore the factors laid out by the FCC. Finally, Dr. Banerjee uses the same flawed assumptions for his net present value analysis as used for loops as well.

Q. HOW DOES BELLSOUTH OVERSTATE THE REVENUE ASSOCIATED WITH A BUILDOUT?

A. On page 18 of his testimony, Dr. Banerjee describes his approach to estimating the potential revenue a CLEC could receive from extending its network. Instead of determining the potential revenue for a specific route between two wire centers, Dr. Banerjee assumes that the revenue for his analysis is equal to the total spending of the CLEC for all transport, including special access, from the new wire center to all other wire centers, not just a single wire center. If Dr. Banerjee is including revenue between more than two wire centers in his analysis, then he is overstating the potential revenue associated with an individual route.

Q. HOW DOES DR. BANERJEE'S POTENTIAL DEPLOYMENT ANALYSIS FOR DEDICATED TRANSPORT INAPPROPRIATELY RELY UPON HYPOTHETICAL COST INFORMATION?

A. Similar to loops, Dr. Banerjee's analysis relies upon hypothetical cost information provided by BellSouth witness Wayne Gray.

Q. DOES MR. GRAY'S TESTIMONY PROVIDE REALISTIC CONSTRUCTION COST ESTIMATES?

A. No. Similar to Loops, Mr. Gray assumes a per-foot cost of $6.60 to extend fiber to a new wire center, which, like loops, basically assumes no real construction whatsoever. Using Mr. Gray's numbers, a 1,000 foot extension would cost the CLEC only $6,600. This dollar amount is not

representative of costs that would be associated with a real construction project, which often can run into the hundreds of thousands of dollars.

Q. DOES DR. BANERJEE USE THE SAME FLAWED ASSUMPTIONS IN HIS NET PRESENT VALUE ANALYSIS THAT HE USED IN HIS LOOP ANALYSIS?

A. Yes. Dr. Banerjee uses the same 10 year project life and 10.8% discount rate that I criticized in the loop section above.

Q. WHAT DO YOU CONCLUDE ABOUT BELLSOUTH'S POTENTIAL DEPLOYMENT ANALYSIS FOR DEDICATED TRANSPORT?

A. I have concluded that BellSouth has not satisfied its burden of proving potential deployment at any capacity level for any of the routes for which it seeks such a finding. Similar to my recommendation for loops, BellSouth must provide a net-present value analysis that reflects the route-specific analysis required by the FCC. BellSouth only must consider the incremental revenues associated with a given route, and also must use more reasonable assumptions related to project life and discount rates in performing its net present value analysis.

VI. TRANSITIONAL ISSUES

Q. MS. PADGETT STATES THAT CLECS SHOULD ONLY HAVE A NINETY DAY TRANSITIION PERIOD. IS THIS REASONABLE?

A. No. If anything, Ms. Padgett's proposal is the unreasonable one. First, if CLECs were forced to disconnect their existing UNEs on a broad scale and convert them to some other type of service, it would take BellSouth much longer than 90 days just to develop a cutover plan for transitioning the circuits to another CLEC's network. A "special project" such as this would obviously have to be coordinated with the day-to-day operational activities of BellSouth as well as the numerous other carriers involved. Second, the TRA must ensure that CLECs can transition their services to another CLEC before such a transition could occur, which as I stated in my direct testimony, is not a simple conversion process. Sufficient time must be allowed for this conversion to occur in an orderly manner, without threatening customer disruption.

Q. WHY WOULDN'T CLECS CONVERT THEIR UNES TO BELLSOUTH'S SPECIAL ACCESS SERVICES?

A. While they certainly will have that option, the underlying premise of the triggers is that there will be evidence that the CLECs can either building their own loops or utilize the wholesale offerings of another carrier. It would defeat the purpose of the triggers and the impairment analysis if

CLECs were not given a reasonable opportunity to avail themselves of the options implied by the triggers..

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

CERTIFICATE OF SERVICE

I hereby certify that on March 15, 2004 a copy of the foregoing document was serviced on the parties of record, via US mail:

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Exhibit GJB-1 Loop Self-Provisioning Trigger										
	Address	City	MCI	AT&T	XO	ICG	Memphis	Kent Dat	Trigger Candidate?	Basis of Exclusion
1	300 E ML King Blvd	Chatanooga						?		Level 3 - NR, Xspedius - Geo
2	633 Chestnut St	Chatanooga								AT&T-OCN,(IDT/Winstar, Verizon, Xspedius - Geo)
3	745 E 17th St,	Chatanooga								Level 3 - NR, Qwest-NR
4	8110 Cordova Rd	Cordova					?			Time Warner - NR
5	400 W Main St	Knoxville		DS3						MCI-NDS3
6	406 Union Ave	Knoxville	DS3							Level 3 - NR
7	410 W Magnolia	Knoxville	DS3					?	?	Level 3 - NR
8	4605 Lyons View Pike	Knoxville								DSLNet-GeoResults
9	500 W Summit Hill Dr	Knoxville	DS3	DS3					1	
10	800 S Gay St	Knoxville	DS3	DS3					1	
11	165 Madison Ave	Memphis								XO-NDS3, Time Warner - NR
12	201 Court Ave	Memphis	DS3					?	?	Time Warner - NR
13	240 S Hollywood St	Memphis	DS3							XO-OCN, Time Warner-NR
14	2632 Jackson Ave	Memphis					?			XO-OCN, Time Warner-NR
15	2650 Thousand Oaks Blvd	Memphis								XO-NDS3, Time Warner - NR
16	3705 Outland Rd	Memphis								Level 3 - NR, Time Warner-NR
17	3993 Crowfarn Dr	Memphis					?			Level 3 - NR, Time Warner-NR
18	4960 Black Rd	Memphis								Level 3 - NR, Time Warner-NR
19	5100 Poplar Ave	Memphis					?			XO-NDS3, Time Warner - NR
20	5350 Poplar Ave	Memphis								XO-NDS3, Time Warner - NR
21	65 Union Ave	Memphis		DS3						XO-OCN
22	6625 Lenox Park Dr	Memphis					?			XO-OCN
23	77 W Carolina Ave	Memphis								XO-OCN, Time Warner-NR
24	9001 New Lawrenceberg	Mt Pleasant								Level 3 - NR, Qwest-NR
25	201 Church St	Nashville				?		?	?	
26	209 10th Ave S	Nashville								IDT/Winstar - GeoResults
27	210 25th Ave N	Nashville				?				XO-NDS3
28	211 Commerce St	Nashville		DS3	DS3				1	
29	2525 Perimeter Place Dr	Nashville		DS3						Adelphia-GeoResults
30	2990 Sidco Dr	Nashville			DS3					Level 3 - NR, Qwest-NR
31	3100 W End Ave	Nashville		DS3						XO-OCN
32	315 Deaderick St	Nashville				?				XO-OCN
33	340 Herron Dr	Nashville								MCI-NR,XO-OCN
34	460 Metroplex Dr	Nashville								Level 3 - NR, Adelphia- Georesults
35	505 Fesslers Ln	Nashville			DS3					SBC-GeoResults
36	701 Broadway	Nashville				?				XO-OCN
37	801 Broadway	Nashville								XO-NR, Adelphia - GeoResults
38	820 Fesslers Pkwy	Nashville								Adelphia-GeoResults
39	119 Milan Way	Oak Ridge	DS3		DS3				1	Adelphia-GeoResults
40	9150 HWY 203	Savannah								Level 3 - NR, Adelphia - GeoResults, Qwest-NR
								Total	4	

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	Address	City	MCI	AT&T	XO	ICG	Memphis	Kent Dat	Trigger Candidate?	Basis of Exclusion
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4	8110 Cordova Rd	Cordova					?			Time Warner - NR
5	400 W Main St	Knoxville		DS3						MCI-NDS3
6	406 Union Ave	Knoxville	DS3							Level 3 - NR
7	410 W Magnolia	Knoxville	DS3					?	?	Level 3 - NR
8	4605 Lyons View Pike	Knoxville								DSLNet-GeoResults
9	500 W Summit Hill Dr	Knoxville	DS3	DS3					1	
10	800 S Gay St	Knoxville	DS3	DS3					1	
11	165 Madison Ave	Memphis								XO-NDS3, Time Warner - NR
12	201 Court Ave	Memphis	DS3					?	?	Time Warner - NR
13	240 S Hollywood St	Memphis	DS3							XO-OCN, Time Warner-NR
14	2632 Jackson Ave	Memphis					?			XO-OCN, Time Warner-NR
15	2650 Thousand Oaks Blvd	Memphis								XO-NDS3, Time Warner - NR
16	3705 Outland Rd	Memphis								Level 3 - NR, Time Warner-NR
17	3993 Crowfarn Dr	Memphis					?			Level 3 - NR, Time Warner-NR
18	4960 Black Rd	Memphis								Level 3 - NR, Time Warner-NR
19	5100 Poplar Ave	Memphis					?			XO-NDS3, Time Warner - NR
20	5350 Poplar Ave	Memphis								XO-NDS3, Time Warner - NR
21	65 Union Ave	Memphis		DS3						XO-OCN
22	6625 Lenox Park Dr	Memphis					?			XO-OCN
23	77 W Carolina Ave	Memphis								XO-OCN, Time Warner-NR
24	9001 New Lawrenceberg	Mt Pleasant								Level 3 - NR, Qwest-NR
25	201 Church St	Nashville				?		?	?	
26	209 10th Ave S	Nashville								IDT/Winstar - GeoResults
27	210 25th Ave N	Nashville				?				XO-NDS3
28	211 Commerce St	Nashville		DS3	DS3				1	
29	2525 Perimeter Place Dr	Nashville		DS3						Adelphia-GeoResults
30	2990 Sidco Dr	Nashville			DS3					Level 3 - NR, Qwest-NR
31	3100 W End Ave	Nashville		DS3						XO-OCN
32	315 Deaderick St	Nashville				?				XO-OCN
33	340 Herron Dr	Nashville								MCI-NR,XO-OCN
34	460 Metroplex Dr	Nashville								Level 3 - NR, Adelphia- Georesults
35	505 Fesslers Ln	Nashville			DS3					SBC-GeoResults
36	701 Broadway	Nashville				?				XO-OCN
37	801 Broadway	Nashville								XO-NR, Adelphia - GeoResults
38	820 Fesslers Pkwy	Nashville								Adelphia-GeoResults
39	119 Milan Way	Oak Ridge	DS3		DS3				1	Adelphia-GeoResults
40	9150 HWY 203	Savannah								Level 3 - NR, Adelphia - GeoResults, Qwest-NR
								Total	4	

Exhibit GJB-2 Transport Triggers

	CLLI 'A'	CLLI "Z"		Adelphia	EPB	AT&T	XO	MCI	SBC	Time Warner	KMC	Memphis	Trigger Potential?
1	CHTGTNBR	CHTGTNDT	Chattanooga	NR	NR						NR		
2	CHTGTNBR	CHTGTNNS	Chattanooga	NR	NR						NR		
3	CHTGTNDT	CHTGTNNS	Chattanooga	NR	NR	NR					NR		
4	KNVLTNBE	KNVLTNMA	Knoxville	NR				?					
5	KNVLTNBE	KNVLTNWH	Knoxville	NR				?					
6	KNVLTNBE	OKRGTNMT	Knoxville	NR				?					
7	KNVLTNMA	OKRGTNMT	Knoxville	NR				?					
8	KNVLTNMA	OKRGTNMT	Knoxville	NR				?					
9	KNBLTNWH	OKRGTNMT	Knoxville	NR				?					
10	MMPHTNBA	MMPHTNCK	Memphis	NR								?	
11	MMPHTNBA	MMPHTNCT	Memphis	NR			?		NR	?		?	1
12	MMPHTNBA	MMPHTNEL	Memphis	NR			?		NR	?		?	1
13	MMPHTNBA	MMPHTNGT	Memphis	NR			?		NR	?		?	1
14	MMPHTNBA	MMPHTNMA	Memphis	NR			?		NR	?		?	1
15	MMPHTNBA	MMPHTNMT	Memphis	NR			?		NR	?		?	1
16	MMPHTNBA	MMPHTNOA	Memphis	NR			?		NR	?		?	1
17	MMPHTNBA	MMPHTNSL	Memphis	NR			?		NR	?		?	1
18	MMPHTNCK	MMPHTNCT	Memphis	NR								?	
19	MMPHTNCK	MMPHTNEL	Memphis	NR								?	
20	MMPHTNCK	MMPHTNGT	Memphis	NR								?	
21	MMPHTNCK	MMPHTNMA	Memphis	NR								?	
22	MMPHTNCK	MMPHTNMT	Memphis	NR								?	
23	MMPHTNCK	MMPHTNOA	Memphis	NR								?	
24	MMPHTNCK	MMPHTNSL	Memphis	NR								?	
25	MMPHTNCT	MMPHTNEL	Memphis	NR			?		NR	?		?	1
26	MMPHTNCT	MMPHTNGT	Memphis	NR			?		NR	?		?	1
27	MMPHTNCT	MMPHTNMA	Memphis	NR			?		NR	?		?	1
28	MMPHTNCT	MMPHTNMT	Memphis	NR			?		NR	?		?	1
29	MMPHTNCT	MMPHTNOA	Memphis	NR			?		NR	?		?	1
30	MMPHTNCT	MMPHTNSL	Memphis	NR			?		NR	?		?	1
31	MMPHTNEL	MMPHTNGT	Memphis	NR			?		NR	?		?	1
32	MMPHTNEL	MMPHTNMA	Memphis	NR			?		NR	?		?	1
33	MMPHTNEL	MMPHTNMT	Memphis	NR			?		NR	?		?	1
34	MMPHTNEL	MMPHTNOA	Memphis	NR			?		NR	?		?	1
35	MMPHTNEL	MMPHTNSL	Memphis	NR			?		NR	?		?	1
36	MMPHTNGT	MMPHTNMA	Memphis	NR			?		NR	?		?	1
37	MMPHTNGT	MMPHTNMT	Memphis	NR			?		NR	?		?	1
38	MMPHTNGT	MMPHTNOA	Memphis	NR			?		NR	?		?	1

	CLLI 'A'	CLLI "Z"		Adelphia	EPB	AT&T	XO	MCI	SBC	Time Warner	KMC	Memphis	Trigger Potential?
39	MMPHTNGT	MMPHTNSL	Memphis	NR			?		NR	?		?	1
40	MMPHTNMA	MMPHTNMT	Memphis	NR			?		NR	?		?	1
41	MMPHTNMA	MMPHTNOA	Memphis	NR			?		NR	?		?	1
42	MMPHTNMA	MMPHTNSL	Memphis	NR			?		NR	?		?	1
43	MMPHTNMT	MMPHTNSL	Memphis	NR			?		NR	?		?	1
44	MMPHTNMT	MMPHTNSL	Memphis	NR			?		NR	?		?	1
45	MMPHTNOA	MMPHTNSL	Memphis	NR			?		NR	?		?	1
46	FKLNTNMA	NSVLTNAP	Nashville	NR			?						
47	FKLNTNMA	NSVLTNBW	Nashville	NR			?						
48	FKLNTNMA	NSVLTNCH	Nashville	NR			?		NR				
49	FKLNTNMA	NSVLTNDO	Nashville	NR			?		NR				
50	FKLNTNMA	NSVLTNMC	Nashville	NR			?						
51	FKLNTNMA	NSVLTNMT	Nashville	NR			?		NR				
52	FKLNTNMA	NSVLTNST	Nashville	NR			?						
53	FKLNTNMA	NSVLTNUN	Nashville	NR			?		NR				
54	NSVLTNAP	NSVLTNBW	Nashville	NR			?						
55	NSVLTNAP	NSVLTNCH	Nashville	NR			?						
56	NSVLTNAP	NSVLTNDO	Nashville	NR			?						
57	NSVLTNAP	NSVLTNMC	Nashville	NR			?						
58	NSVLTNAP	NSVLTNMT	Nashville	NR			?						
59	NSVLTNAP	NSVLTNST	Nashville	NR			?						
60	NSVLTNAP	NSVLTNUN	Nashville	NR			?						
61	NSVLTNBW	NSVLTNCH	Nashville	NR			?						
62	NSVLTNBW	NSVLTNDO	Nashville	NR			?						
63	NSVLTNBW	NSVLTNMC	Nashville	NR			?						
64	NSVLTNBW	NSVLTNMT	Nashville	NR			?						
65	NSVLTNBW	NSVLTNST	Nashville	NR			?						
66	NSVLTNBW	NSVLTNUN	Nashville	NR			?						
67	NSVLTNCH	NSVLTNDO	Nashville	NR			?		NR				
68	NSVLTNCH	NSVLTNMC	Nashville	NR			?						
69	NSVLTNCH	NSVLTNMT	Nashville	NR			?		NR				
70	NSVLTNCH	NSVLTNST	Nashville	NR			?						
71	NSVLTNCH	NSVLTNUN	Nashville	NR			?		NR				
72	NSVLTNDO	NSVLTNMC	Nashville	NR			?						
73	NSVLTNDO	NSVLTNMT	Nashville	NR			?		NR				
74	NSVLTNDO	NSVLTNST	Nashville	NR			?						
75	NSVLTNDO	NSVLTNUN	Nashville	NR			?		NR				
76	NSVLTNMC	NSVLTNMT	Nashville	NR			?						
77	NSVLTNMC	NSVLTNST	Nashville	NR			?						
78	NSVLTNMC	NSVLTNUN	Nashville	NR			?						

	CLLI 'A'	CLLI "Z"		Adelphia	EPB	AT&T	XO	MCI	SBC	Time Warner	KMC	Memphis	Trigger Potential?
79	NSVLTNMT	NSVLTNST	Nashville	NR		NR	?						
80	NSVLTNMT	NSVLTNUN	Nashville	NR		NR	?		NR				
81	NSVLTNST	NSVLTNUN	Nashville	NR		NR	?						
												Total	28

Exhibit GJB-3 Wholesale Loops

	Address	City	MCI	AT&T	XO	ICG	Memphis	Kent Dat	DS1 Trigger?	DS3 Trigger?	Basis of Exclusion
1	300 E ML King Blvd	Chatanooga						?			Level 3 - NR, Xspedius - Geo
2	633 Chestnut St	Chatanooga									(IDT/Winstar, Verizon, Xspedius - Geo), AT&T-NWHS
3	745 E 17th St,	Chatanooga									Level 3 - NR, Qwest-NR
4	8110 Cordova Rd	Cordova					?				Time Warner-NR
5	400 W Main St	Knoxville									MCI-NDS3,DS1, AT&T NWHS
6	406 Union Ave	Knoxville	DS3,DS1								Level 3 - NR
7	410 W Magnolia	Knoxville	DS3,DS1					?			Level 3 - NR
8	4605 Lyons View Pike	Knoxville									DSLNet-GeoResults
9	500 W Summit Hill Dr	Knoxville	DS3,DS1								AT&T-NWHS
10	800 S Gay St	Knoxville	DS3,DS1								AT&T-NWHS
11	165 Madison Ave	Memphis			DS1						Time Warner-NR
12	201 Court Ave	Memphis	DS3					?		?	Time Warner-NR
13	240 S Hollywood St	Memphis	DS3,DS1		DS1,DS3				1	1	Time Warner-NR
14	2632 Jackson Ave	Memphis			DS1,DS3		?		?	?	Time Warner-NR
15	2650 Thousand Oaks Blvd	Memphis			DS1						Time Warner-NR
16	3705 Outland Rd	Memphis									Level 3 - NR, Time Warner-NR
17	3993 Crowfarn Dr	Memphis					?				Level 3 - NR, Time Warner-NR
18	4960 Black Rd	Memphis									Level 3 - NR, Time Warner-NR
19	5100 Poplar Ave	Memphis			DS1		?		?		Time Warner-NR
20	5350 Poplar Ave	Memphis			DS1						Time Warner-NR
21	65 Union Ave	Memphis			DS1,DS3						AT&T-NWHS
22	6625 Lenox Park Dr	Memphis			DS1,DS3		?		?	?	
23	77 W Carolina Ave	Memphis			DS1,DS3						Time Warner-NR
24	9001 New Lawrenceberg	Mt Pleasant									Level 3 - NR, Qwest-NR
25	201 Church St	Nashville				?		?			
26	209 10th Ave S	Nashville									IDT/Winstar - GeoResults
27	210 25th Ave N	Nashville			DS1	?			?		
28	211 Commerce St	Nashville			DS1,DS3						AT&T-NWHS
29	2525 Perimeter Place Dr	Nashville									Adelphia-GeoResults, AT&T-NWHS
30	2990 Sidco Dr	Nashville			DS3						Level 3 - NR, Qwest-NR
31	3100 W End Ave	Nashville			DS1,DS3						AT&T-NWHS
32	315 Deaderick St	Nashville			DS1,DS3	?			?	?	
33	340 Herron Dr	Nashville			DS1,DS3						MCI-NR,XO-OCN
34	460 Metroplex Dr	Nashville									Level 3 - NR, Adelphia- Georesults
35	505 Fesslers Ln	Nashville			DS3						SBC-GeoResults
36	701 Broadway	Nashville				?					XO-NDS1,DS3
37	801 Broadway	Nashville									XO-NR, Adelphia - GeoResults
38	820 Fesslers Pkwy	Nashville									Adelphia-GeoResults
39	119 Milan Way	Oak Ridge	DS3		DS3				1		Adelphia-GeoResults
40	9150 HWY 203	Savannah									Level 3 - NR, Adelphia - GeoResults, Qwest-NR
								Total	2	1	

GJB-4

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November 25, 2002

Ms Marlene Dortch
Secretary
Federal Communications Commission
445 12th Street, SW, Room TWB-204
Washington, DC 20554

Re Notice of Oral Ex Parte Communication, In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, CC Docket Nos. 01-338, 96-98 and 98-147

Dear Ms. Dortch

In recent *ex partes*, AT&T has stated that the absolute minimum "crossover" point at which it becomes economically rational for a requesting competitive carrier to consider constructing its own interoffice transport facilities is reached when the carrier can aggregate approximately 18 DS3s of *total* traffic in a Local Serving Office (LSO), including all local, data, exchange access and interexchange traffic routed through the office. At Staff's request, AT&T has developed a detailed explanation of the methodology used to develop that estimate which can be found in Attachment A to this letter

One of the critical points to note is that in developing the "crossover" point, AT&T did *not* attempt to assess the ILECs' TELRIC costs of providing transport to themselves and their affiliates (and thus the actual cost disadvantage that requesting carriers face in using such facilities to offer services that compete with the ILECs' services) Rather, AT&T compared the costs of provisioning its own transport to its average costs for purchasing ILEC *special access services*, which are admittedly *not* offered at cost-based rates Indeed, they are priced at exorbitant levels. Thus, this analysis is highly favorable to the ILECs Given that TELRIC costs are actually between half and two-thirds of the prevailing special access rates, the crossover point for facilities construction necessary for a competitive carrier not paying special access rates to achieve cost parity with the ILECs is between 28 and 36 DS3s of total traffic *See* Attachment A

As is also obvious from Attachment A, transport construction represents a high fixed cost Moreover, nearly two-thirds of interoffice transport costs are fixed.[1] Thus, a carrier cannot be expected to begin construction of its own transport facilities until it is reasonably certain that it will have the necessary scale to recover its construction costs.[2] Otherwise, such construction would simply be wasteful

In this regard, it is essential that CLECs be able to achieve a cost structure comparable to the ILEC's even where the incumbent's existing prices are well above costs. Where a CLEC has significantly higher costs than the ILEC, the CLEC knows that the ILEC could simply drop its prices below the CLEC's costs, but still above the ILEC's costs, and remain profitable. But by setting prices below the CLEC's costs, the ILEC would make it impossible for the entrant to remain economically viable The prospect of such a pricing strategy is particularly high where, as is the case for services provided to businesses, the ILEC can price discriminate. This allows the ILEC to lower prices selectively, *i e.*, only to those customers that could potentially be served by the CLEC, and thus to keep prices high for all other customers Thus, because transport constitutes a sizeable percentage of the overall cost of telecommunications services, facilities-based entry is generally viable only where a CLEC can self-deploy transport at a cost that is not well in excess of the ILEC's costs.[3]

Finally, a carrier's analysis of whether to construct a fiber backbone ring (and thus provide its own transport) is very different from its analysis as to whether to build a Building Ring or a Customer Lateral off an existing Building Ring to provide the equivalent of a loop for large customer buildings. Accordingly, the amount of committed traffic necessary to support the construction of loops for large business customers – which AT&T has indicated is about 3 DS3s of traffic – is substantially less than the amount needed to support the construction of a backbone ring. The assumption here is that the existing transport ring is justified for other purposes and that the loop is addressed by incrementally attaching a small ring to serve a specific building and, where necessary, a short lateral extension In support of AT&T's claim that 3 DS3s of traffic is required to support an economically rational lateral fiber build-out, and to ensure that the record is complete, AT&T is also submitting with this *ex parte* a detailed discussion regarding AT&T's estimation of loop construction costs, which is appended as Attachment B.

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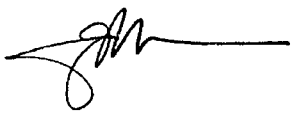
[1] *See ex parte* letter from C Frederick Beckner to Marlene Dortch dated November 14, 2002, attaching white paper prepared by Professor Robert D Willig entitled "Determining 'Impairment' Using the *Horizontal Merger Guidelines* Entry Analysis," p 13

[2] *Id* at 5

[3] *Id* at 7-8

Consistent with Commission rules, I am filing one electronic copy of this notice and request that you place it in the record of the above-referenced proceedings

Sincerely,



Joan Marsh

cc: Michelle Carey
Thomas Navin
Robert Tanner
Jeremy Miller
Dan Shiman
Julie Veach
Don Stockdale

Attachment A

DETAILED DESCRIPTION OF CLECS' COLLOCATION AND BACKHAUL INFRASTRUCTURE COSTS

Introduction:

A CLEC seeking to enter the market using its own facilities must incur collocation and transport costs to "backhaul" traffic from an ILEC serving office where its customers' loops terminate to its own switch In a recent filing, AT&T explained that the costs associated with collocation and backhaul average about $33,000 per month and that at least 18 DS3s in traffic volume is required to make such investment prudent. This document provides detailed information on how these figures were developed.

In simple terms, collocation costs arise from three key sources (1) the backhaul facility, (2) the collocation space itself, and (3) the equipment placed within the collocation The derivation of costs for each component is described below.

Backhaul Facilities:

Backhaul facilities comprise the largest component of a CLEC's infrastructure costs. These include the costs of deploying an interoffice fiber facility in a ring architecture The absolute cost of such a ring is predominantly a function of the length of the fiber cable, the nature of the structure employed to support the cable (aerial/buried/underground) and the density zone where the fiber facility is deployed. The number of strands deployed impacts the carrier's costs to only a minor degree.[1]

The following table lists the key assumptions underlying AT&T's calculation of structure costs and identifies the HAI material discussing the derivation of the input cost.

Item	Aerial	Buried	U/G	ref (HAI 5 2)
Placement/ft		$ 1 77	$ 16 40	p 102
Added Sheathing/ft		$ 0 20		p 102
Conduit			$ 0 60	p 102
Pull Box (per ft, 1 per 2000 ft)			$ 0 25	p 104
Poles (per ft, 1 per 150ft)	$ 2 78			pp 104-105
U/G excavation/restoration			$ 23 74	p 140
Buried excavation/restoration		$ 6 71		p 143
Total construction	$ 2 78	$ 8 68	$ 40 99	

[1] In fact, the variable cost per fiber strand is $0 032/foot (See HAI 5 2 inputs, page 100) and the average cost of the cable (installation and engineering) is about $1 00 per foot In sharp contrast, the cost of supporting structures for a cable can be as high as $45/foot (for buried cable) or $75/foot (for underground cable) For the purposes of analysis, although large quantities of dark strands would be deployed with the initial build, no cost of this dark capacity is attributed to the interoffice transport

The buried and underground (U/G) placement costs in the above table are derived from the HAI model input data. They represent a weighted average of the four highest density zones in the model. These zones were selected because they are the zones covering more metropolitan areas, where CLEC facility construction is most likely to occur first. This is also consistent with the RBOCs' data on existing placements of fiber-based collocations.[2] The following weightings were applied by density zone:

Weighting Factor	
Density Zone	Weighting
0-5	0 00%
5-100	0 00%
100-200	0 00%
200-650	0 00%
650-850	0 00%
850-2250	65 00%
2250-5000	20 00%
5000-1000	10 00%
>10000	5 00%

The weighted unit costs were developed by multiplying the density zone weighting and the appropriate structure placement unit cost (note that the aerial placement was not a function of density zone). The placement unit costs employed and the resulting weighted averages are shown below:

Buried Excavation, Installation, and Restoration (p 143)	
Density Zone	Cost/ft
0-5	$ 1 77
5-100	$ 1 77
100-200	$ 1 77
200-650	$ 1 93
650-850	$ 2 17
850-2250	$ 3 54
2250-5000	$ 4 27
5000-1000	$ 13 00
>10000	$ 45 00
Minimum	$ 1 77
Maximum	$ 45 00
Employed	$ 6 71

U/G Excavation, Installation, and Restoration (p 140)	
Density Zone	Cost/ft
0-5	$ 10 29
5-100	$ 10 29
100-200	$ 10 29
200-650	$ 11 35
650-850	$ 11 88
850-2250	$ 16 40
2250-5000	$ 21 60
5000-1000	$ 50 10
>10000	$ 75 00
Minimum	$ 10 29
Maximum	$ 75 00
Employed	$ 48 90

[2] The RBOC UNE Fact Report (page III-2, Table I) shows that 13% of the RBOCs' wire centers have fiber collocators present The cut off for the top 13% of RBOC offices is in the range of 36,000 lines Given that loops are generally less than 3 miles in length, a central office service area will be about 27 square miles (or less in metropolitan areas) Thus the RBOCs' own data show that CLEC facility builds are occurring in areas where line density is no lower than 36,000/27, or no less than about 1,400 lines per square mile Thus, using the entire 850-2250 line density zone is conservative

Because structure proportions vary by density zone, it was necessary to establish the weighted average structure presence in order to develop a single weighted average unit cost. The structure proportion by density zone was obtained from HAI 5 2 inputs and are shown below

Fiber Feeder Structure Proportions (HAI 5 2 p/59)			
density zone	aerial	Buried	U/G
0-5	35%	60%	5%
5-100	35%	60%	5%
100-200	35%	60%	5%
200-650	30%	60%	10%
650-850	30%	30%	40%
850-2250	20%	20%	60%
2250-5000	15%	10%	75%
5000-1000	10%	5%	85%
>10000	5%	5%	90%

These proportions were then multiplied by the above density zone weighting and yielded the following weighted presence of structures for the purposes of the study:

Weighted Structure Distribution			
Density Zone	Aerial	Buried	U/G
0-5	0 0%	0 0%	0 0%
5-100	0 0%	0 0%	0 0%
100-200	0 0%	0 0%	0 0%
200-650	0 0%	0 0%	0 0%
650-850	0 0%	0 0%	0 0%
850-2250	13 0%	13 0%	39 0%
2250-5000	3 0%	2 0%	15 0%
5000-1000	1 0%	0 5%	8 5%
>10000	0 3%	0 3%	4 5%
Weighted	17 3%	15 8%	67 0%

The cost of the fiber cable placed within the structure was also derived from HAI inputs. Fiber feeder cost were used as a proxy (see HAI 5 2 inputs, page 100)·

	Fixed (per cable)/foot		Variable
	Installation	Engineering	per strand
Buried	$ 0 970	$ 0 040	$ 0 030
Aerial	$ 0 880	$ 0 040	$ 0 037
Underground	$ 1 020	$ 0 040	$ 0 032

Finally, it was necessary to establish the lives for the various types of facility placement, the salvage and the annual maintenance cost in order to quantify the full cost of the conductor. These inputs are listed below, together with the source:

Item	Aerial	Buried	U/G	ref (HAI 5 2)
Life	26 14	26 45	25 91	p 129
Salvage	-17 5%	-8 6%	-14 6%	p 129
Maintenance	0 7%	0 8%	0 6%	FCC Synthesis Model Input

In order to generate a single set of factors covering the three alternative structures, the individual results were combined as a weighted average. This was accomplished by weighting each unit cost and the salvage, life and maintenance factor by the proportion of structures in the density zones under consideration. This was done by using the weighted average structure distribution developed above.

The following elements were the resulting weighted element inputs.

Weighted Life	26 03	
Weighted Salvage	-14 1%	
Weighted Maintenance	0 67%	
Total Installed Cost	$ 30 34	per foot
	$ 0 033	per strand per foot

In order to quantify the investment, the total length of cable and the total number of strands needed to be specified. For the analysis, an average span cost assignment equivalent to 8.94 miles was employed, based upon AT&T's experience.[3] Thus, the total assigned investment is $1.435 million per span [4] The associated monthly maintenance expense is 0 67% of the investment amount assigned to the node divided by 12, or $798 per month per node.[5]

The monthly capital recovery was amortized over the life of the investment after the investment was grossed-up for the net salvage. A 14.24% cost of money was employed, which is very conservative, as it does not reflect the higher risk associated with the CLEC

[3] By the end of 2001 AT&T had deployed 17,026 route miles of local fiber in which 1,905 spans were active (unique point pairs) Accordingly, the average route miles per active span in AT&T's network is 8 94 miles While this does not mean that each physical segment is that length, it provides a reasonable means to allocate, among active uses, the cost of a shared facility

[4] The calculation is (8 94*($30 34 + 2* 033)*5280) for a total of $1 435M

[5] The calculation is ($1 435M*0 67%)/12

operations (compared to the 10% cost of money assumed for the incumbents).[6] These factors yielded a monthly investment recovery cost of $19,937 for the facility.[7] The total monthly costs for the facility, including maintenance, is $20,806 per month. Another 5% was added to account for non-income tax coverage requirements for a total of $21,771 per month

Collocation Space:

Collocation costs are simply the costs associated with renting and securing conditioned Central Office space within an ILEC office. The collocation space is the area where the CLEC places its transmission equipment and terminates its interoffice facility for cross-connection to other interoffice or loop facilities. The collocation costs are comprised of two main components (1) the cost of initially preparing and securing the space, and (2) the on-going cost of renting the space (which not only includes the physical space but also heating, ventilation, air conditioning and power)

The space preparation cost is treated as an investment and recovered over the life of the equipment placed within the collocation For the purposes of this analysis, 10.24 years was employed, which is the average useful life of digital circuit equipment (see HAI 5.2 inputs, page 129) The same cost of money and treatment of taxes employed for the facility analysis above was utilized here as well Neither gross salvage nor cost of removal were assumed

Because HAI inputs are oriented to ILEC operations, no collocation costs are reflected as cost inputs. Accordingly, internal estimates of collocation preparation costs were employed. Internal estimates indicated that the preparation costs are in the range of $200,000 to $250,000 This, in turn, yields a $3,488 monthly cost for the preparation alone.

The monthly physical collocation rental costs were developed from ILEC billing to AT&T When analyzed on the LEC-LATA level, the average monthly expense was $4,083 although the true mean could be expected to lie anywhere in the range of $3,579 to $4,586 (at a 95% level of confidence). The average figure was employed for the analysis.[8] Accordingly, the monthly costs attributable to collocation in total were $7,950 per month after taking into account taxes other than income taxes.

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[6] For simplicity in the study, a pre-tax cost-of-money was employed The figure is entirely consistent with the ILEC cost of money of 10 01% employed in the HAI model The 14 24% cost of money is derived by the following equation %debt*cost of debt+%equity*cost of equity/(1-effective income tax rate) In this instance the % debt was 45%, the cost of debt was 7 7%, the cost of equity was 11 9% and the effective income tax rate was 39 25%

[7] The calculation was the EXCEL PMT function @PMT((14 24%/12),(26 03*12),(($1 435M)*(1-(-14 1%)) The multiplication by 1 1418 grosses the initial investment up for gross salvage less cost of removal which, in this case, is negative

[8] As with other expense, this figure was increased by 5% to account for taxes other than income taxes

Transmission Equipment:

When operating at the interoffice transport level, there is relatively little equipment placed within the collocation The necessary equipment includes: optical path panels (to terminate and cross-connect the fiber facility), optical multiplexers, and power distribution (e g., power filtering and fuses) equipment

The optical path panel costs are described in HAI 5 2 inputs (p 97). The panels cost $1,000 each, and the cost of cross–connecting to the equipment is $60/strand. In this instance, 2 cross-connections are required per panel (one in and one out) and 2 panels are employed (one for each strand to assure no single point of failure). Accordingly, the capital investment for the panels is $2,240

The HAI input lists the investment associated with an optical multiplexer (see page 96). The base unit cost is $40,000 (12 DS3 capacity) and the fully equipped unit cost is $50,000 (48 DS3s) Thus, the investment is $40,000, $43,333.33, $46,666.67 or $50,000 depending upon whether 12, 24, 36, or 48 DS3s are in service. This is the only aspect of the investment that is demand sensitive (i e., if fewer than 48 DS3s are assumed) but this amounts to little more than $3 per DS3. Two multiplexers are assumed to provide redundancy and, as set forth in HAI 5.2 inputs, it is assumed that there is $1,760 invested to engineer, furnish and install each multiplexer and associated optical panel (see page 97). The total investment in the optical multiplexers (24 DS3s assumed) is $90,187.[9]

The installed cost of the last remaining equipment item – the battery distribution fuse bay (BFDB) – is estimated at $62,500.[10]

The total installed equipment cost is therefore $2,240 for the distribution panels, $90,187 for the multiplexers and $62,500 for the BFDB, yielding a total of $154,927. Amortizing this amount over the average useful life of circuit equipment, applying a 1.69% net salvage (HAI 5.2 p 130) and the same cost of money as above, yields an investment recovery cost of $2,443 per month. Maintenance costs are derived by applying a 2% annual maintenance factor (see FCC Synthesis Model for circuit equipment) to the $154,927 gross investment (with the result divided by 12), for a maintenance cost of $258 per month. Combining these two figures and providing for 5% non-income tax related costs yields a total cost of $2,836 per month.

Rationale for the 18 DS3 Minimum:

Adding all of the above figures yields a monthly average cost of $32,557 Given that the monthly costs of facility-based collocation are effectively insensitive to volume, the average unit cost is simply the $32,557 monthly figure divided by the number of DS3s in service

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[9] 2*(43,333 33+1760)

[10] This is an internal estimate, because there is no equivalent identified in the HAI inputs

Assuming that unbundled transport is not available as an unbundled network element, and in the absence of market-based competition for connectivity between the necessary points, a CLEC's only practical alternative to building its own facilities is to use ILEC special access service. In today's market, given the continuing imposition of use and commingling restrictions, this special access would be likely be bought under a term plan of either three or five years. Assuming that the special access interoffice mileage would be equivalent to the average span, then a comparison of alternatives is possible. Note, however, that this is *not* a comparison between actual ILEC costs for existing transport facilities and anticipated CLEC costs for new construction. Rather, it is a comparison between anticipated CLEC construction costs and ILEC special access rates, which are admittedly well above the ILEC's costs.

AT&T's experience is that a DS3 interoffice facility plus one channel termination[11] will cost approximately $2,363 per month under a 36-month term agreement and $1,780 per month under a 60-month term agreement. Thus, at least 14 DS3 would be required to break-even compared to a 36-month term special access rate and at least 18 DS3s would be required compared to a 60-month term special access rate. Given that the collocation was assumed to have a 10-year useful life, comparison to the 60-month term agreement was judged most relevant, making the 18 DS3 figure the appropriate comparison.

In fact, AT&T has demonstrated that special access is priced (exorbitantly) well above economic cost Further, AT&T has demonstrated that a carrier cannot viably enter a local market on a facilities-basis if it incurs costs for a key input that are well above the cost that the ILEC itself incurs for that input. Given that the ILEC's economic costs of transport are in the range of half to two-thirds of prevailing special access rates, then 28 to 36 DS3s would be required to "prove-in" a transport facilities build if the competitive carrier were to achieve cost parity with the ILEC.[12]

[11] If a facility is not build, not only is the interoffice transport required but a connection from the final LSO to the switch location (i e , a high capacity channel term or entrance facility) is also required

[12] If the unit cost alternative were 50% to 67% lower, then the revised break-even point is simply the originally calculated break-even point divided by the preceding price ratio

Attachment B

ESTIMATING THE COST OF LOOP CONSTRUCTION

Introduction:

Loop facilities are one of the most basic components of a telecommunications network and are used in the provision of all services, whether switched or dedicated. These facilities provide the physical connection between the customer location and the network of the serving carrier Because much of the investment is dedicated to one or a very small number of customers, and because the facilities have very high initial costs to deploy, only the very largest customer locations (in terms of service demand) can be economically reached through an over-build. The focus of this paper is upon such "large" customer locations As shown below, a CLEC must have the potential to serve a large number of buildings (about 20) within a consolidated geographic area, with each building generating at least 3 DS3s of demand before a build is economic. Even then, serving the location will involve significant investment – approximately $6.7M for the building ring, plus approximately $3M for the premises and node equipment. And all of this analysis assumes that the CLEC considering the build can reach the buildings in the area with rights of way and building access comparable to the ILEC.

Before discussing the costs of building it is first important to share a common understanding of the general architecture of the outside plant employed by a CLEC Figure 1 below provides a general representation of this plant:

Typical Configuration of "Local" Fiber Rings

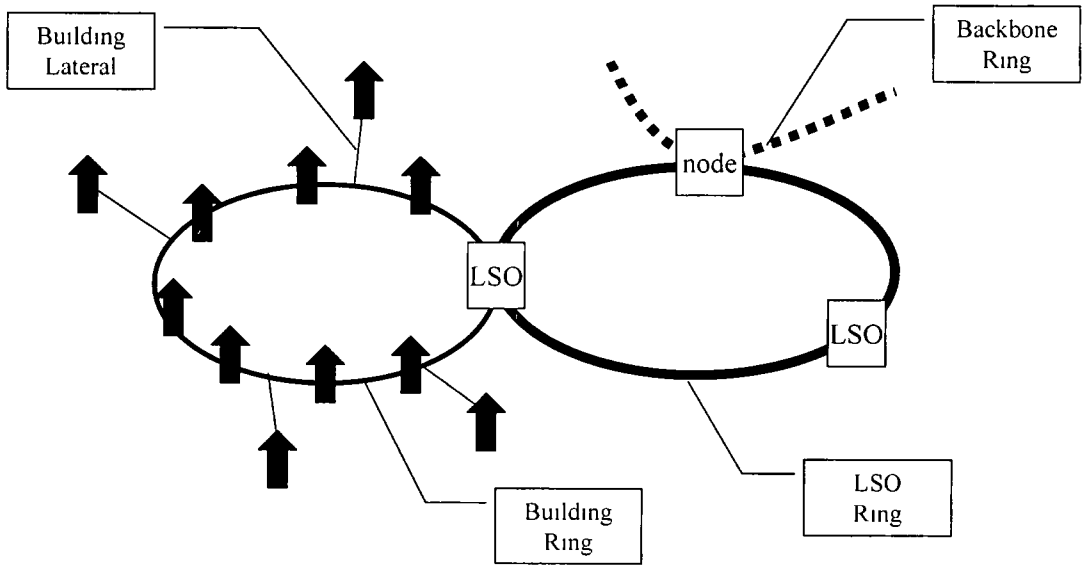

Figure 1.

A self-provided CLEC "loop" is actually composed of two to three interconnected facilities The first is the LSO Ring. This ring connects the network locations (*e g*, facility/switch nodes and collocations) within a metropolitan area. The cost of connecting these locations is discussed in a related paper quantifying the costs of transport and will not be repeated here [1] The LSO Ring interfaces with two other ring types. backbone rings and building rings. Because the loop is constructed to reach the service provider's network, which effectively starts and ends at the backbone ring (for dedicated services) or the switch connecting to the backbone ring (for switched services), the costs of the backbone ring are not relevant to the discussion of loop costs. On the other hand, the building rings are a significant consideration in quantifying loop costs. A Building Ring extends the CLEC network from a very aggregated demand point (*i e.*, the facility-based collocation in an LSO) to (or near) customers' premises.

The final component of the loop infrastructure is the Customer Lateral. When a Building Ring is constructed, every effort is made to run the ring facility directly though critical buildings. In fact, Building Rings tend to be about 30 route miles long and tend to have 10 to 15 buildings on each.[2] Whether or not a building is placed on a ring is highly dependent upon factors such as the following: (1) whether the location was identified as a "high volume" location early enough in the planning to permit its inclusion, (2) whether access to the building could be secured from the landlord in a timeframe consistent with the overall project time line, and (3) whether building access costs were not judged prohibitive If a building is not placed directly on the building ring as part of the initial build, it may still be possible to add a building at a later point. Such buildings are added by extending a short segment of fiber that is spliced to the ring and extends to the building. Because these segments are not shared with any other users other than the single building connected, and because the segment generally is not protected via diverse routing of redundant facilities, laterals tend to be very short.[3]

To recap. an LSO Ring is a highly aggregated facility that is shared among a wide variety of customer locations and services, a Building Ring is a facility whose use is shared among 10 to 15 buildings; a Customer Lateral is a facility useful only for the particular building connected.

In order to quantify the cost of these loops, a general understanding of the essential equipment components is important The key components are shown in Figure 2:

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[1] See Attachment A to this Submission, referred to herein as the Transport *ex parte*

[2] These characteristics tend to vary by specific metropolitan area However, the AT&T Outside Plant Engineering organization believes these parameters reasonably reflect the conditions across its local markets Other carriers may have different experiences due to different market strategies and less robust local fiber facility deployment

[3] AT&T seeks to limit laterals to less than 500 feet in order to contain customer-dedicated investment and to reduce the risk of facility damage (*i e*, the longer the facility the greater the probability that some form of mechanical harm may be experienced)

Typical Configuration of An On-Net Building "Loop"

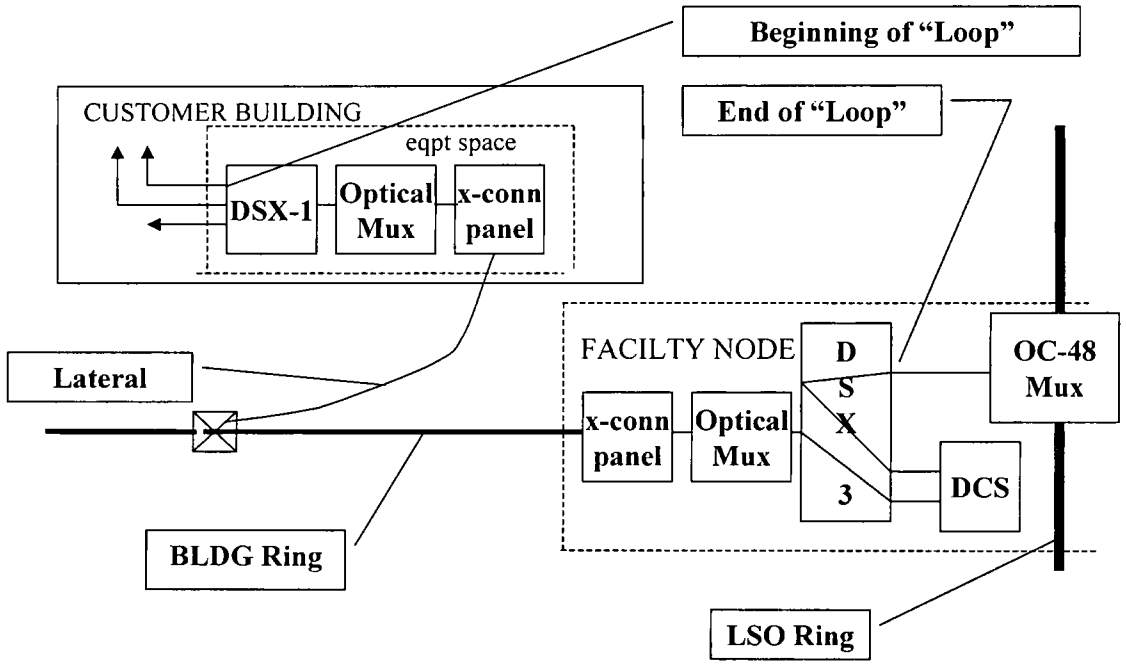

Figure 2

The functions of the individual components are relatively straightforward:

DSX-1 or DSX-3: Provides a cross-connection point between facilities operating at the DS1 level (DSX-1) or the DS3 level (DSX-3) without requiring that the facility be de-multiplexed to a lower bandwidth The DSX frames allow relatively non-disruptive addition and removal of equipment, reasonable physical test access, and provide efficient means for cross-connecting circuits

Optical Mux (and OC-48 Mux). Transmission equipment that aggregates (*i e* , multiplexes or "muxes") multiple lower bandwidth services onto a very high bandwidth facility. An Optical mux generally also supports signal conversions between optical and electrical based transmissions.

Digital Cross-Connection System (DCS): Provides for the grooming of facilities without the need to de-multiplex and re-multiplex the individual "channels" of the connecting facilities. For example, it permits the moving of DS1 #5 contained within DS3 #2 in facility segment A to DS1#17 within DS3 #3 on facility segment B. DCS allows improved utilization of very high capacity facilities.

X-conn Panel (or Fiber Distribution Panel). Provides a point of termination and cross-connection of a fiber facility to transmission equipment that manages the communications carrier within a fiber conductor

Quantification of Cost of Self-provided Loops:

The cost of a self-provided loop can be conveniently analyzed based upon the following categories:

Lateral facility
Building Ring facility
LSO Ring transport
Building location costs
Node costs (interfacing between a Building Ring and an LSO Ring)

Each of these categories is reasonably subdivided into subcategories of investment costs, maintenance costs, and taxes

Customer Lateral Facility:

As discussed above, the lateral facility is a short fiber that is dedicated to an individual building connected to a Building Ring Because CLEC-provided loop facilities are typically placed in dense metropolitan areas, such facilities are virtually always placed in an underground structure. Consistent with the LSO Ring analysis, the building connected will be in one of the four most dense cells as defined in the HAI 5.2 model. Accordingly, the unit cost for the fiber lateral is the same as that underlying the analysis of the LSO Ring costs and is $40.99 per foot and $0 033 per strand foot A twelve-strand fiber is assumed although this assumption does not materially impact the overall cost of the fiber lateral. Accordingly, the gross investment is $20,690[4] and converts to an investment cost of $342 per month.[5] As with the LSO transport model, a 0 61% per year per gross investment dollar maintenance assumption is applied, and 5% of investment and maintenance costs were added to cover non-income taxes This results in a maintenance expense of about $11 and tax expense of $17 per month associated with the lateral. The total cost is $370 per month [6]

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[4] The actual calculation is as follows 500 feet* ($40 99/foot+ 12 strands *($0 033/strand-foot))

[5] The calculation is the same as employed in the LSO transport cost analysis in the Transport *ex parte* and employs the EXCEL PMT function The actual calculation is PMT(cost of money, recovery period, gross investment*(1-salvage)) The cost of money employed in this analysis is based upon the pre-tax cost of money employed in the LSO transport cost analysis (*i e* , 14 24%) increased by 20% to account for the greater risk associated with the loop plant investment (*i e* , the actual cost of money employed is 17 09% per year) The recovery period for the building-dedicated investment is 6 years Net salvage is the same as that used for fiber facilities and is identical to that underlying the LSO transport analysis for underground fiber (*i e* , -14 58%)

[6] If the lateral life is assumed to be the same as that of an underground fiber, the overall cost declines to $91 per month, distributed $76 for investment recovery, $11 for maintenance and $4 taxes However, such a long life is unreasonably conservative given the volatile nature of demand from a single customer location (customer contracts typically run only 2 to 3 years) Accordingly, even the 6-year figure assumes at least one contract renewal, and the figure presented is this footnote is offered strictly for sensitivity analysis purposes

Building Ring:

As stated above, Building Rings are typically about 30 miles in total length and connect 10 to 20 buildings to the LSO transport node As with the Customer Lateral, the Building Ring is assumed to be an underground fiber placed within one of the four highest density zones of the HAI model. Accordingly, the same unit cost per foot and per strand is employed as was used for determining the investment cost of the lateral. The cost modeling assumes 2 strands per building Accordingly, the gross investment in the Building Ring is about $6.7 million [7] Because this facility is shared among 20 buildings, the assigned investment cost per building is $334,952 of gross investment. Note that the maximum number of buildings typically placed on a ring was employed. As a result, this generates the lowest likely gross investment attribution.

A consistent approach was used to develop the monthly cost for the Building Ring component as was employed for the Customer Lateral. The only exception is that the life for the Building Ring was assumed to be that of underground fiber, *i e.*, about 26 years, rather than the 6-year life for the lateral. While the life of an individual lateral may be relatively short, the assumption here is that as individual buildings drop off the ring (due to lack of demand) others are added to replace them, resulting in a stable number of on-net buildings. The monthly investment recovery cost is $5,533 and the associated monthly maintenance and tax-related costs are $170 and $285, respectively. The total Building Ring assigned cost is, therefore, $5,988 per month per building.

LSO Ring Transport:

The last component of physical connectivity associated with the CLEC loop is the LSO Ring transport This is the same connectivity that would be employed by any other service configuration or loop connecting to the CLEC network through the node. As such, the cost previously developed for the Transport *ex parte* is employed here. Because the costs are basically fixed at the node, the issue is simply one of determining the total DS3 volume presented to the node and then determining the number of DS3s that an individual building contributes. For the purposes of this analysis, the fixed costs of the node are assumed to be the same as that developed in the Transport *ex parte* or $32,557 per month. Furthermore, in order to present the most conservative evaluation of the cost of a CLEC loop, the analysis assumes that the facility is used to 90% of capacity, or $740 per DS3 per month

Customer Location Costs:

The customer location costs are primarily equipment and space related. The equipment costs are related to those elements shown at the customer location in Figure 2: the DSX-1, the Optical Mux and the Fiber Distribution Panel (FDP) The FDP investment is the

[7] The calculation is as follows 30 miles * 5280 ft/mi*($40 99/ft + 20 buildings*(2 strands/building)*($0 033/strand-foot)

same as that used in the Transport *ex parte*, *i e* , $1000 per panel and 2 connections per multiplexer at $60 per connection ($1120 per connected panel). The Optical Mux cost is that for an OC-3 and is found in the HAI inputs (p. 96) The common cost is $20,000 plus $500 per 7 DS1s, up to a maximum of 84 DS1s. No cost was available in HAI for the DSX-1, however, costs were available on the ADC website for such equipment (www.adc.com) Specifically, a DSX-1 shelf with a capacity of 84 DS1s is priced at $2,085 (see item Di M2GU1) Most customer building connections are at the OC-3 level. Accordingly, the investment at a customer premise is $23,205 plus $500/7 DS1s. This converts to a monthly cost of $407 plus $9 for every 7 DS1s active.[8] Thus, the total monthly investment cost for equipment at a customer location is in the range of $416 to $513 if from 1 to 84 DS1 (84 DS1s equal 3 fully utilized DS3s) are active. This investment cost results in a maintenance cost of $40 to $49 and taxes of $23 to $28 per month.

The final cost that must be considered is that for space rental. For the purposes of this analysis, space rental at each building adds about $678 per month.[9] Because no site preparation costs are explicitly included, there is no associated gross investment and, accordingly, no maintenance assumed Taxes, however, account for $34/month.

The customer location costs are summarized below:

Item	Investment Cost	Maintenance	Other	Taxes	Total
Equipment	$416 to $513	$40 to $49	$0	$23 to $28	$479 to $590
Space	$0	$0	$678	$34	$712
Total at Premise	$416 to $513	$40 to $49	$678	$57 to $62	$1,191 to $1,302

Node Costs:

As shown in Figure 2, the equipment at the node necessary to interface with the LSO Ring transport included a FDP, an OC-3 multiplexer, a DSX-3 cross-connection device and a DCS The FDP and OC-3 have the same cost, maintenance and tax implications as for the customer premises The cost of the DCS is found in HAI 5.2 inputs (p 99) and reflects a gross investment of $30,000 per DS3. HAI inputs do not explicitly list a DSX-3 cost. The same ADC website referenced for the DSX-1 also contains a cost for a DSX-3 (see DSX-4B-24-7A), which is $8,463 and can accommodate 24 DS3s. Because this function is shared at the node, rather than incurring the full cost of a shelf, the study

[8] The equipment lives, gross salvage and maintenance factors are those used for circuit equipment as described in the Transport *ex parte*, *i e* , 10 24 years, -1 69% and 2%, respectively

[9] AT&T's internal records relating to common space rentals indicate a national average monthly cost of $678 30

assumes that sharing occurs and that the cost will be incurred on a DS3 basis (or $353 per DS3 port) Based on Figure 2, 5 ports are required per DS3 at the node Accordingly, the gross investment formula for the node is $21,120+$500 per 7 DS1s+ $30,863 per 84 DS3s [10] Thus, the node costs are largely a function of the number of DS3s delivered from the building. The table below summarizes the node related costs for various demand levels at the building:

Building Volume (DS1s)	investment cost	maintenance	taxes	total
0-7	$922	$87	$50	$1059
8-14	$931	$88	$51	$1070
15-21	$940	$89	$51	$1080
22-28	$949	$90	$52	$1091
29-35	$1516	$144	$83	$1743
36-42	$1525	$145	$83	$1753
43-49	$1534	$145	$84	$1763
50-56	$1543	$146	$84	$1773
57-63	$2110	$200	$115	$2425
64-70	$2119	$201	$116	$2436
71-77	$2128	$202	$116	$2446
78-84	$2137	$203	$117	$2457

[10] The investment cost equation, based on the same life and salvage assumptions applied to the customer node equipment is $355+$558/DS3+$9/7 active DS1 The fixed cost is slightly different compared to the customer premises, because rather than one FDP there are two and the cost of those two are shared among 20 buildings

With all the components of the cost now established, it is possible to develop the total cost of connecting a building that provides varying levels of demand

	Monthly Costs By Source						
DS1s active	cust location eqpt	lateral	bldg ring	node eqpt	LSO Backhaul	total	avg cost/DS1
1	$ 1,191	$ 370	$ 5,988	$ 1,059	$ 740	$ 9,348	$ 9,348
7	$ 1,191	$ 370	$ 5,988	$ 1,059	$ 740	$ 9,348	$ 1,335
14	$ 1,201	$ 370	$ 5,988	$ 1,070	$ 740	$ 9,369	$ 669
21	$ 1,211	$ 370	$ 5,988	$ 1,080	$ 740	$ 9,389	$ 447
28	$ 1,221	$ 370	$ 5,988	$ 1,091	$ 740	$ 9,410	$ 336
35	$ 1,231	$ 370	$ 5,988	$ 1,743	$ 1,480	$ 10,812	$ 309
42	$ 1,241	$ 370	$ 5,988	$ 1,753	$ 1,480	$ 10,832	$ 258
49	$ 1,251	$ 370	$ 5,988	$ 1,763	$ 1,480	$ 10,852	$ 221
56	$ 1,261	$ 370	$ 5,988	$ 1,773	$ 1,480	$ 10,872	$ 194
63	$ 1,271	$ 370	$ 5,988	$ 2,425	$ 2,220	$ 12,274	$ 195
70	$ 1,281	$ 370	$ 5,988	$ 2,436	$ 2,220	$ 12,295	$ 176
77	$ 1,291	$ 370	$ 5,988	$ 2,446	$ 2,220	$ 12,315	$ 160
84	$ 1,301	$ 370	$ 5,988	$ 2,457	$ 2,220	$ 12,336	$ 147

Having the total cost and unit cost for a constructed loop now permits an evaluation of when it is reasonable to substitute a build for an alternative facility. Because AT&T has generally been unable to obtain high capacity UNEs, particularly UNE DS1 loops multiplexed onto UNE DS3 facilities, the only possible comparison is to ILEC special access.

Special Access Alternative:

Other than access to a UNE loop, the alternative to constructing loops is a special access configuration from the customer premises to the CLEC network. Given the volumes, the configuration would most likely be a combination of DS1 channel terminations, DS3:1 multiplexing and DS3 interoffice transport The approximate cost of such a configuration, under a long term pricing arrangement, is approximately the following:

DS1 Channel Term (with NRC amortized): $113 to $127 per DS1/month
DS3 fixed with mux (NRC amortized) $850 to $1,018 per DS3/month
DS3 interoffice mileage: $53 to $73 per mile per DS3/month

The figure represents the approximate rate, averaged across RBOC territories, for a three-year term agreement, and the lower figure represents the average rate for a 5-year term agreement This is, therefore, a highly conservative estimate of the ability of a CLEC to self-deploy a loop because special access rates are well-above the RBOCs' economic

costs. As AT&T has explained, a CLEC needs to achieve costs comparable to the RBOC's economic costs in order to deploy economically its own facilities

These unit costs can be used to develop the average (per DS1) cost of a special access configuration The only additional information required is the inter office mileage For the analysis, the same mileage was used as is employed for the transport *ex parte* (8.94 miles). The following table compares the average cost per DS1 under an overbuild assumption (build) compared to the average cost of obtaining the equivalent capacity as a DS1 Channel Termination + DS3 interoffice transport using access obtained under a 5-year term agreement (SA-5) or a 3-year term agreement (SA-3). The table shows that the average cost of the self-provided loops are not less than special access pricing until a third DS3 is activated (each DS3 represents 28 DS1s). At 63 active DS1 loops, the build has a superior cost structure compared to the 3-years special access average unit cost ($195/DS1 compared to $206/DS1). Similarly, compared to the 5-year special access average unit cost, it is not until the 77th DS1 is activated that the build unit cost are an improvement over the special access rate ($160/DS1 compared to $165/DS1). All this leads to the conclusion that a CLEC requires at least 3 DS3s of customer demand at a building before a facility build can generally be proven in as financially prudent.

DS1s	build	SA-5	SA-3
7	$ 1,335	$ 302	$ 365
14	$ 669	$ 208	$ 246
21	$ 447	$ 176	$ 206
28	$ 336	$ 160	$ 187
35	$ 309	$ 189	$ 222
42	$ 258	$ 176	$ 206
49	$ 221	$ 167	$ 195
56	$ 194	$ 160	$ 187
63	$ 195	$ 176	$ 206
70	$ 176	$ 170	$ 198
77	$ 160	$ 165	$ 192
84	$ 147	$ 160	$ 187