

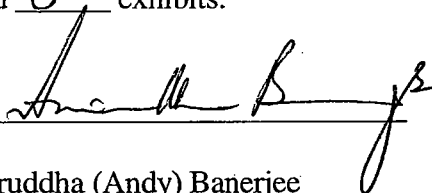
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STATE OF MASSACHUSETTS

COUNTY OF MIDDLESEX

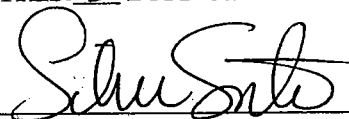
BEFORE ME, the undersigned authority, duly commissioned and qualified in and for the State and County aforesaid, personally came and appeared Aniruddha (Andy) Banerjee, who, being by me first duly sworn deposed and said that:

He is appearing as a witness before the Kentucky Public Service Commission in Case No. 2003-00379, Review of Federal Communications Commission's Triennial Review Order Regarding Unbundling Requirements for Individual Network Elements, and if present before the Commission and duly sworn, his rebuttal testimony would be set forth in the annexed testimony consisting of 12 pages and 0 exhibits.



Aniruddha (Andy) Banerjee

SWORN TO AND SUBSCRIBED BEFORE ME
THIS 23 DAY OF MARCH, 2004



Notary Public

SILVIA SANTOS
NOTARY PUBLIC
My commission expires Sept 24, 2004

BELLSOUTH TELECOMMUNICATIONS, INC.

REBUTTAL TESTIMONY OF ANIRUDDHA (ANDY) BANERJEE, Ph.D.

BEFORE THE KENTUCKY PUBLIC SERVICE COMMISSION

DOCKET NO. 2003-00379

MARCH 31, 2004

1 **Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND CURRENT**
2 **POSITION.**

3
4 A. My name is Aniruddha (Andy) Banerjee. I am a Vice President at NERA Economic
5 Consulting located at One Main Street, Cambridge, Massachusetts 02142.

6
7 **Q. HAVE YOU TESTIFIED PREVIOUSLY IN THIS PROCEEDING?**

8
9 A. Yes, I filed Direct Testimony in this proceeding on February 11, 2004.

10
11 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

12
13 A. My Rebuttal Testimony responds to certain economic issues raised in the Direct
14 Testimonies of Gary J. Ball (on behalf of Competitive Carriers of the South) and Jake E.
15 Jennings (on behalf of NewSouth Communications Corp.) that were filed in this

1 proceeding on February 11, 2004.¹ Mr. Ball purports [at 4] to offer “a workable framework
2 for evaluating ILEC claims of non-impairment that is faithful to the principles and
3 requirements set forth in the *TRO*.”² My Rebuttal Testimony indicates that Mr. Ball’s
4 “framework”—as far as it concerns the conduct of the potential deployment test—is
5 deficient in at least two important respects. My testimony also points out that Mr. Jennings
6 overlooks completely the role of *potential* deployment (also set forth in the *TRO*) in any
7 impairment analysis.

8
9 **Q. WHAT ARE THE TWO FLAWS IN MR. BALL’S “FRAMEWORK?”**

10
11 A. First, in providing an example of “how the definition of a loop could be misinterpreted by
12 an ILEC,” Mr. Ball [at 19] adopts a flawed definition of the term “customer location.”
13 Although Mr. Ball does so in his discussion of the requirements for satisfying the FCC-
14 specified self-provisioning trigger analysis, the definition has serious consequences for the
15 potential deployment analysis as well.

16
17 Second, Mr. Ball dismisses [at 35-36] the relevance of the potential deployment test in the
18 event that the self-provisioning trigger test is not satisfied for a given customer location or
19 transport route. In fact, the reasons he constructs for conducting the potential deployment

¹ I refer here only to the Public Disclosure version of Mr. Jennings’ Direct Testimony.

² “ILEC” is the acronym for incumbent local exchange carrier. “*TRO*” is shorthand for the *Triennial Review Order*, released on August 21, 2003 by the Federal Communications Commission (“FCC”) in CC Docket Nos. 01-338, 96-98, and 98-147.

1 test are themselves flawed and run counter to the FCC's own instructions about when and
2 how that test should be conducted.

3
4 **Q. PLEASE EXPLAIN WHY MR. BALL'S DEFINITION OF "CUSTOMER**
5 **LOCATION" IS FLAWED.**

6
7 A. Mr. Ball offers [at 19] the following example of how an ILEC *could* misinterpret the
8 definition of a loop for the purposes of the self-provisioning trigger analysis.

9
10 In a multi-tenant building, two CLECs may have provisioned fiber-optic
11 facilities to serve one customer each, while the rest of the building is being
12 served solely by the ILEC. Even though there are two competing loop facilities
13 into the building, an ILEC request that the trigger is satisfied for the entire
14 building, or even the two customers served by the CLECs, would be incorrect, as
15 no customer location within the building is being served by the facilities of two
16 or more competing providers. The key distinction in this example is that the
17 customer location, which is the endpoint of the loop per the FCC, is a subset of a
18 building location in a multi-tenant environment.³

19
20 This example is misleading because it relies on a flawed definition of "customer location."

³ "CLEC" is the acronym for "competitive local exchange carrier."

1 Mr. Ball draws an explicit distinction between a customer location and a building with
2 multiple tenants. Nothing in the *TRO* or instructions given by the FCC to conduct either
3 the trigger test or the potential deployment test makes that distinction. To the contrary,
4 there is ample evidence that, in the context of the enterprise market, the FCC uses the term
5 “customer location” in the same sense as a “multiunit premises location” or building with
6 multiple tenants. For example, while discussing the record on CLEC deployment of OCn-
7 level fiber loops, the FCC states:

8
9 ... the record shows that competitors have built fiber loops to *buildings* that
10 carry a significant portion of the competitive traffic in certain MSAs. [*TRO*,
11 ¶298; emphasis added]

12
13 The FCC’s concern is clearly not so much with end-user customers as with buildings that
14 are occupied by those customers. A similar reference by the FCC to the record on CLEC
15 deployment of DS3 loops, in fact, cites WorldCom and AT&T:

16
17 *See, e.g.*, WorldCom Fleming Decl. at para. 10 (when customer demand is
18 projected at several DS3s or optical level capacity a self-build decision is made);
19 WorldCom Comments at 7 (customers in a *building* must commit to at least
20 three DS3 circuits before it is economically viable to extend fiber to that
21 building); AT&T Comments at 134 (a competitive LEC can only self-deploy to a
22 location with enormous demand, the smallest of which would be at the OC3

1 level); AT&T Nov. 25, 2002 *Ex Parte* Letter at 3 (the amount of committed
2 traffic to support construction of loops for large business customers is about
3 three DS3s, i.e., an OC3), and Attach. B at 9 (at least three DS3s worth of
4 demand is required before a facility build can generally be proven as financially
5 prudent). The record also contains some evidence that DS3 loop services may be
6 available from alternative providers other than the incumbent LECs in some
7 buildings where competitive capacity to the *building* has already been
8 provisioned at the OCn level. [*TRO*, fn. 860; emphasis added]

9
10 Another example of the FCC's usage of the term comes from its discussion of the
11 importance of demand and revenue, not just cost, in the CLEC's decision to deploy its own
12 fiber loops:

13
14 Because the cost to self-deploy local loops at any capacity is great, and the cost
15 to deploy fiber does not vary based on capacity, a competitive LEC that plans to
16 self-deploy its own facilities must target customer locations where there is
17 sufficient demand from a potential customer base, usually a *multiunit premises*
18 *location*, to generate a revenue stream that could recover the sunk construction
19 costs of the underlying loop transmission facility, including laying the fiber and
20 attaching the requisite optronics to light the fiber. [*TRO*, ¶303; emphasis

1 added]⁴

2
3 Again, there is no evidence that the term “customer location” should mean “customer” or
4 imply, as Mr. Ball puts it, a “subset of a building location in a multi-tenant environment.”

5
6 **Q. WHAT ARE THE LIKELY CONSEQUENCES OF ADOPTING MR. BALL’S**
7 **DEFINITION OF “CUSTOMER LOCATION?”**

8
9 A. Despite the clear record of how the FCC has used that term, Mr. Ball appears to equate
10 “customer location” with “customer,” or at least with some entity short of the building
11 itself. That is neither inadvertent nor inconsequential. As is obvious from the passage
12 reproduced above from Mr. Ball’s testimony, such a definition would oblige any trigger or
13 potential deployment analysis to demonstrate that at least two competing providers are
14 serving either a customer or some undefined entity between the level of a customer and the
15 building in which that customer is an occupant. Taken to the extreme, this would amount
16 to having to show that each customer (such as a medium or large-sized firm that is a tenant
17 in the building) is in a position to be served by two or more competing providers using
18 their own fiber loop facilities. In my reading of the *TRO*, the FCC has never required that,

⁴ Other passages in the *TRO* reinforce the reasons for using the term “customer location” in the same sense as “building.” See, e.g., *TRO*, ¶¶343-358 (on subloops for multiunit premises access and network interface devices). Indeed, both the potential deployment analysis in my Direct Testimony and the trigger analysis in the Direct Testimony of Shelley Padgett in this proceeding have made such a usage. In its discussion of the impairment issue, the FCC also reports that 3-5% of the nation’s *commercial office buildings*—a term used by

(continued...)

1 in order to establish non-impairment, a trigger or a potential deployment test be undertaken
2 in the manner suggested by Mr. Ball. Indeed, it is doubtful that non-impairment can ever
3 be established in the circumstances envisioned by Mr. Ball. The FCC's requirement for
4 conducting either test is only that two or more competing providers be shown to be able to
5 (either actually or potentially) serve the customer location of interest (namely, a building
6 with multiple tenants)—not individual customers or the offices they occupy—using their
7 own fiber loop facilities. Hence, the presence in the building of two or more self-deployed
8 CLECs alongside the ILEC would suffice to satisfy the FCC's requirement.

9
10 **Q. PLEASE EXPLAIN WHY MR. BALL IS WRONG TO DISMISS THE**
11 **RELEVANCE OF THE POTENTIAL DEPLOYMENT TEST WHEN, FOR SOME**
12 **REASON, THE SELF-PROVISIONING TRIGGER TEST IS NOT SATISFIED.**

13
14 A. Mr. Ball reasons that if the self-provisioning trigger test is not satisfied, then it must mean
15 that two or more competing providers have not deployed their own fiber loops to a
16 customer location, or that three or more competing providers have not deployed their own
17 transport facilities over a particular route. In any such situation, Mr. Ball argues, CLECs
18 would clearly be impaired without unbundled access to ILEC fiber loop or transport
19 facilities. In fact, Mr. Ball further reasons [at 35] that the only purpose of the potential
20 deployment test at that point would be to demonstrate that “something unique to this

(...continued)

the FCC—are served by CLEC-deployed fiber loops. See the *TRO*, fn. 856.

1 particular customer location or this transport route rebuts the national finding of
2 impairment.”

3
4 This is a complete misinterpretation of the FCC’s purpose behind conducting a potential
5 deployment test. Consider the following statement by the FCC of its rationale for such a
6 test:

7
8 In applying the Self-Provisioning Trigger to high capacity loops, we find that
9 actual competitive deployment is the best indicator that requesting carriers are
10 not impaired, and therefore emphasize that this quantitative trigger is the
11 primary vehicle through which non-impairment findings will be made. We
12 recognize, however, that this high-capacity loop trigger measures only the
13 existence of *actual* deployed competitive alternatives at a customer location
14 rather than whether that particular customer location *could* be economically
15 served by competitive carriers through deployment of alternative loop
16 transmission facilities. Thus, when conducting its customer location specific
17 analyses, a state must consider and may also find no impairment at a particular
18 customer location even when this trigger has not been facially met *if* the state
19 commission finds that no material economic or operational barriers at a
20 customer location preclude competitive LECs from economically deploying loop
21 transmission facilities to that particular customer location at the relevant loop

1 capacity level. [*TRO*, ¶335; emphasis in original]⁵

2

3 The FCC makes no reference here to “unique” characteristics of the customer location in
4 the manner suggested by Mr. Ball. Rather, it is clear that, when the self-provisioning
5 trigger test is not fully satisfied, the role of the potential deployment analysis is to show
6 that some required number of self-deployed CLECs would not be precluded by “material
7 economic or operational barriers” from providing service to the customer location or
8 building in question. Thus, as explained in my Direct Testimony, if the trigger analysis
9 shows that a building is actually being served by one self-deployed CLEC, then it would
10 suffice for the potential deployment analysis to show that at least one more CLEC can
11 potentially (i.e., in a financially viable manner) serve that building using its own fiber
12 loops. In addition, if the trigger analysis shows that no CLEC is actually serving a
13 building, then it would suffice for the potential deployment analysis to show that at least
14 two CLECs can potentially serve that building using their own fiber loops. In that sense,
15 the FCC’s two tests can be regarded as being complementary: between them, they must
16 establish the actual or potential presence of two or more self-deployed CLECs at a given
17 customer location.

18

19 It is particularly noteworthy that, although it considers “actual competitive deployment” to
20 be the “best indicator” of non-impairment, the FCC certainly does not hold *actual*

⁵ A similar rationale appears in the *TRO*, ¶410, for a potential deployment analysis of transport routes.

1 deployment to be the *only* indicator for that purpose. From this, it is reasonable to infer
2 that even customer locations for which there is *no* actual competitive deployment presently
3 may be subjected to the potential deployment test. Upon doing so, non-impairment would
4 be established if at least two CLECs could be found to potentially serve a customer
5 location using their own fiber loops.⁶ For this reason, I disagree with Mr. Ball's assertion
6 [at 35] that "the potential deployment test posits a situation that is extremely unlikely to
7 occur." It is *not* that unlikely when the complementary nature of the two tests is properly
8 understood.

9
10 A similar logic applies to the use of the two tests for non-impairment on transport routes.
11 The FCC has established that, to demonstrate non-impairment on a given transport route,
12 three or more self-deployed CLECs should be able to actually or potentially serve that
13 route. Thus, if the trigger analysis shows the presence of two such CLECs on that route,
14 then the potential deployment analysis must establish that it would be financially viable for
15 at least one more self-deployed CLEC to serve that route. If the trigger analysis shows the
16 presence of only one (or zero) self-deployed CLEC, then the potential deployment test
17 would have to establish that at least two (or three) self-deployed CLECs could viably serve
18 that route. This is exactly the direction followed in my Direct Testimony.

⁶ Logically, *any* demonstration that at least two CLECs could potentially deploy their own fiber loops to a building would establish non-impairment. This would be true *regardless* of whether any actual competitive deployment has occurred to either fully or partially satisfy the self-provisioning trigger test. In that sense, my conduct of the potential deployment test in my Direct Testimony clearly *exceeded* the FCC's minimum requirements for demonstrating non-impairment.

1

2 **Q. WHY DO YOU TAKE ISSUE WITH MR. JENNINGS' TESTIMONY?**

3

4 A. In his entire discussion [at 13-17] of how any impairment analysis for high capacity loops
5 and transport facilities should be conducted in accordance with the FCC's instructions in
6 the *TRO*, Mr. Jennings never mentions the complementary role of the potential deployment
7 test when the trigger tests are not completely satisfied. This omission leaves the
8 impression that the impairment analysis need only consist of the trigger analysis. For
9 example, after a lengthy explanation of how the self-provisioning and wholesale facilities
10 triggers should be applied in an impairment analysis, Mr. Jennings concludes [at 15-16]:

11

12 In determining whether impairment no longer exists on a particular loop or
13 route, a state commission *does not need to go beyond the triggers* or to rely on
14 state laws as a basis for UNE availability. The state commission must insist that
15 "relevant evidence [demonstrates] that the customer location [or route] satisfies
16 one of the triggers." (emphasis added). If it does so, very few customer locations
17 or transport routes will meet the impairment trigger and in those instances
18 CLECs will be able, as a practical, economic, and operational matter, to use
19 alternatives to the ILEC facilities without impairment.⁷

20

⁷ Emphasis added.

1 This appears to suggest that the triggers alone should matter in the impairment analysis,
2 despite the FCC's express instruction to state commissions [*TRO*, ¶335 and ¶410] to
3 conduct the potential deployment test when the trigger tests are not "facially met." Also,
4 the conclusion that "very few" customer locations and transport routes should qualify as
5 being non-impaired under the trigger tests appears to disregard the possibility that
6 additional such locations and routes could qualify under the FCC's potential deployment
7 test. Indeed, my Direct Testimony shows that 48 customer locations pass the potential
8 deployment test.

9

10 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

11

12 A. Yes.