1   **SURREBUTTAL TESTIMONY OF MR. JAMES W. STEGEMAN**

2   **ON BEHALF OF BELLSOUTH TELECOMMUNICATIONS, INC.**

3   **BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

4   **DOCKET NUMBER 030851-TP**

5   **JANUARY 28, 2004**

6

7   Section 1. **INTRODUCTION**

8

9   **Q.**   **PLEASE STATE YOUR NAME AND BUSINESS AFFILIATION.**

10

11   A.   My name is James W. Stegeman. I am the President of CostQuest Associates, Inc.

12   I am testifying on behalf of BellSouth Telecommunications ("BellSouth", "BST"

13   or the "Company").

14

15   **Q.**   **ARE YOU THE SAME JAMES W. STEGEMAN THAT FILED DIRECT**

16   **TESTIMONY IN THIS PROCEEDING?**

17

18   A.   Yes. In my direct testimony I described the BACE model used for evaluations of

19   economic impairment.

20

21   **Q.**   **WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?**

22

23   A.   I respond to the rebuttal testimony of Dr. Mark Bryant and Mr. James Webber

24   (MCI), Mr. Kent Dickerson and Dr. Brian Staihr (Sprint), and Mr. Don Wood

25   (AT&T). Each of these witnesses addresses the BACE model in their rebuttal

-1-

1   testimony. My surrebuttal is confined to issues related to the operations and

2   methods of the BACE model itself, Drs. Aron and Billingsley will primarily

3   respond to issues relating to BACE model inputs and interpretation of the results.

4

5 Q.   HOW IS YOUR SURREBUTTAL TESTIMONY ORGANIZED?

6

7 A.   I have divided my surrebuttal testimony into six sections:

8   1)   Introduction.

9   2)   The BACE model is open to review, structurally sound, and is a

10   valid TRO potential deployment tool.

11   3)   The rebuttal by CLECs concerning BACE is inconsistent and

12   contradictory.

13   4)   Clarification of BACE features and misinterpretations of BACE.

14   5)   Additional Rebuttal of Mr. Wood.

15   6)   BACE is clearly superior to AT&T's model in meeting the

16   requirements of the TRO and criteria discussed by Mr. Wood.

17

18 Section 2. **THE BACE MODEL IS OPEN TO REVIEW, STRUCTURALLY**

19 **SOUND, AND IS A VALID TRO POTENTIAL DEPLOYMENT TOOL**

20

21 Q.   HAVE ANY WITNESSES CLAIMED THAT BACE IS NOT OPEN TO

22   REVIEW?

23

24 A.   Yes, Mr. Wood (e.g., page 22, lines 12-14), Dr. Bryant (page 31), and Mr.

25   Dickerson (pages 7 and 8) claim that BACE is not sufficiently open to review to

1		allow a full analysis of the model.
2		
3	Q.	**PLEASE DESCRIBE HOW PARTIES CAN REVIEW THE BACE**
4		**MODEL.**
5		
6	A.	My direct testimony included several capabilities to aid the user in evaluating
7		BACE, including:
8		1. A detailed Users Guide (Exhibit JWS-2);
9		2. A detailed Methods Manual (Exhibit JWS-3);
10		3. A data dictionary and table layout (contained within the Methods Manual).
11		
12	Q.	**WHAT OTHER MEANS TO EVALUATE BACE HAVE BEEN**
13		**PROVIDED TO PARTIES?**
14		
15	A.	There are several.
16		1) BellSouth offers, at no charge, BACE model support, by telephone or email.
17		2) I was a key presenter at public workshops on the model at the November 2003
18		NARUC meetings and before this Florida Commission on December 4, 2003.
19		3) I also presented information on the model at the Kentucky commission on
20		December 3. Many of the CLECs that are actively participating in this docket
21		attended this workshop.
22		4) Through counsel, parties were provided with access to BACE before my
23		direct testimony was filed and without the need for a formal discovery
24		request. Specifically, the link to the CostQuest website was forwarded
25		electronically to AT&T on November 27, 2003 and to MCI on December 2,

1		2003. This version of BACE was substantively the same as the version of
2		BACE filed with my direct testimony (notwithstanding a few input changes).
3		5) In addition, the majority of inputs (all non-proprietary inputs) are user
4		adjustable so that changes can be made to test impacts and sensitivities; and
5		various scenarios can be run either through the wizard or by modifying inputs
6		and creating scenarios directly.
7		
8	Q.	**HAVE YOU TAKEN ANY OTHER STEPS TO PROVIDE FULL ACCESS**
9		**TO BACE?**
10		
11	A.	Yes, I have. I filed supplemental direct testimony on January 21, 2004, to make
12		certain corrections to BACE and provided with that testimony the most recent
13		iteration of BACE. This version of BACE includes a linked database file (the file
14		name is "Scenario"_Intermediate.MDB which resides in the "Scenario" folder)
15		that allows the user to view non-sensitive intermediate processing tables for
16		scenarios based upon the proprietary BellSouth customer data.
17		
18		On January 22, 2004 BellSouth filed supplemental responses to Staff's Third Set
19		of Interrogatories, which responses included updated versions of the proprietary
20		BACE tables.
21		
22		On January 23, 2004, BellSouth filed supplemental responses to Sprint's First
23		Request for Production of Documents, which included a BACE Demonstration
24		scenario ("Demo") that is fully open for review. The processed Demo scenario is
25		unprotected. (the "data" in the BACE Demo is for illustrative purposes only and

1	should not be interpreted or construed to reflect values for any particular
2	geographic area).
3	
4	With these additional capabilities, the user can see the structure of the system, all
5	tables (input and processed), and follow the processing of the model much in the
6	same way as I (and my team) have in developing, testing and refining BACE. In
7	short, all of the filings made, in addition to the telephone and email BACE model
8	support and workshops, allow any party to review BACE at a detailed level.
9	
10	Q.	**THE DEMONSTRATION SCENARIO DOES NOT HAVE ACTUAL**
11		**FLORIDA DATA. WHY ARE CERTAIN TABLES AND INTERMEDIATE**
12		**RESULTS STILL LOCKED FROM THE USERS' VIEW IN THE FULL**
13		**BACE MODEL WITH ACTUAL FLORIDA DATA?**
14	
15	A.	BACE uses a proprietary database containing commercially sensitive and
16		valuable information. Naturally, this data has to be protected. My objective in
17		developing BACE was to make the model as open and easy to use, review, and
18		evaluate, while still protecting this sensitive and powerful data. Certainly, with
19		the additional filed material (via supplemental direct and responses to discovery),
20		BACE users have reasonable opportunities to use, review and evaluate the model.
21	
22	Q.	**WITHIN THE FILED BELLSOUTH SCENARIO, ARE THERE INPUTS**
23		**THAT CANNOT BE MODIFIED BY THE USER IN BACE?**
24	

1 A.   The user cannot modify the initial input values for market prices and quantities.

2   These "locked" quantities include both the total number of customers and the

3   number of each product category sold. However, the user has the ability to

4   control modeled CLEC prices via the CLEC price discount and the bundle price

5   inputs. The user also can control the CLEC quantities via the CLEC market

6   penetration inputs. The user can also change prices, price discounts and

7   penetration over time.

8

9 Q.   **WHY CAN'T THE USER DIRECTLY MODIFY THE UNDERLYING**

10   **MARKET PRICE AND QUANTITY INPUTS?**

11

12 A.   The underlying market price and quantity information is proprietary and it is not

13   possible to protect this proprietary information and still allow the user to change

14   it. As a result, we designed BACE to provide the user the ability to create CLEC

15   prices and quantities without adjusting the underlying data. There is a modeling

16   trade-off between allowing the user to change every input and having a model that

17   uses detailed, proprietary data. The clearly superior choice is to use proprietary

18   data and provide other methods for the user to obtain modeled CLEC prices and

19   quantities.

20

21 Q.   **DO YOU HAVE ANY ADDITIONAL RESPONSE TO MR. DICKERSON'S**

22   **AND MR. WOOD'S CLAIM THAT EXECUTABLE SOURCE CODE IS**

23   **REQUIRED FOR A REVIEW OF A MODEL?**

24

1   A.   Yes. Mr. Dickerson's claim (rebuttal page 8) and Mr. Wood's claim (rebuttal

2   page 2, lines 10-12) suggesting that lack of executable source code impedes

3   model review is wrong for several reasons. First, as the primary designer,

4   debugger, and developer of the code, I do not have the executable version of the

5   source code (and have never had it). I have a word processor document (similar

6   to a PDF) that I use to analyze the code in conjunction with the ability to review

7   the intermediate tables.

8

9   Second, in contrast to the suggestion of Mr. Dickerson (rebuttal pages 8 and 9)

10   executable source code for key components of the telecommunications models he

11   discusses typically have not been provided to parties in a format allowing the user

12   to make code changes, which is what Sprint asked for in this case. For example,

13   the FCC's HCPM, HAI, and original Hatfield models, which rely on customer

14   data developed by PNR / TNS Telecom, have never provided executable source

15   code or the key customer data openly to parties. Instead, parties are required to

16   visit a PNR/TNS site and use the PNR/TNS computers to review the code and any

17   party making such a visit is precluded from copying anything, or leaving with any

18   material. In fact, PNR/TNS charged reviewers a fee for the use of their machines.

19

20   Similarly, consider the telecommunications model BCPM. This was a joint

21   project of BellSouth, Sprint and USWest. It was written in Excel, VBA and C++.

22   While the Excel and VBA programming were available to users, only a word

23   document of the C++ code (which created the clustered customer data) was

24   provided to parties.

25

1   With respect to Sprint's Loop model (a derivative of the BCPM), my

2   understanding is that there is preprocessing of the customer data (similar to the

3   C++ process in BCPM) that has not been released to users in executable format

4   (and in fact may not be available even to Mr. Dickerson).

5

6   Finally, the source code for the BSTLM was released in PDF form, i.e., in the

7   same format that BACE source code was provided to Sprint prior to Mr.

8   Dickerson's rebuttal filing. Mr. Dickerson's reference to identification of model

9   errors and suggested improvements occurred with no greater access to the

10   BSTLM source code and other materials than have been provided for BACE.

11

12 **Q.**   **ARE YOU AWARE OF ANY COMMISSION ORDERS ADDRESSING**

13   **EXECUTABLE SOURCE CODE?**

14

15 A.   Yes. My understanding is that the Commission ruled that the release of the

16   executable source code was not required in Docket No. 990549-TP and did not

17   impede model review. The relevant language provides (at pages 130-31):

18

19   ... the AT&T/WorldCom witnesses complain that <u>they were not given the</u>

20   <u>source code to the BSTLM; rather, they were</u> provided with a password

21   <u>protected .pdf version of the model</u>. . . upon consideration of the evidence,

22   we find that BellSouth's actions here <u>did not impede AT&T/WorldCom's</u>

23   <u>ability to review and critique the BSTLM</u>. (emphasis added.)

24

1	Q.	**MR. DICKERSON STATES (REBUTTAL PAGE 4) THAT "MANY OF**
2		**THE REFERENCED INPUT DATA TABLES ARE NOT AVAILABLE TO**
3		**THE USER FOR INPUT OR VIEWING." DO YOU AGREE?**
4		
5	A.	No, quite the contrary. As originally filed, 45 of 48 input Access Tables in BACE
6		were open to any user. Of the three tables that are protected, PDF versions of the
7		data have been made available to Sprint and other parties through discovery. In
8		addition to the PDF versions of the three tables, the user can control how these
9		three protected tables are used via the use of the other 45 tables.
10		
11	Q.	**MR. DICKERSON STATES (REBUTTAL PAGE 5) THAT "THE**
12		**PMASTER RESULTS TABLE IS NOT AVAILABLE FOR REVIEW ..."**
13		**IS THERE A TECHNIQUE TO REVIEW THE PMASTER RESULTS**
14		**RECORDS?**
15		
16	A.	Yes. While not labeled as such, the contents of PMaster are available through the
17		Reporting screen of BACE. To access the PMaster file, the user would select
18		"Price" as the "Report Data Source" on the Report screen of BACE.
19		
20		Additionally, the BACE demonstration scenario provided as a supplemental
21		discovery response, opens all intermediate tables are to user review, including
22		table PMaster.
23		
24	Q.	**ON PAGE 6 OF HIS REBUTTAL TESTIMONY MR. DICKERSON**
25		**STATES THAT "THE QMASTER RESULTS TABLE IS NOT**

1		AVAILABLE FOR REVIEW ..." IS THERE A TECHNIQUE TO VIEW
2		QUANTITY RECORDS?
3		
4	A.	Yes. The Quantity contents of QMaster are available through the Reporting
5		screen of BACE. These Quantity records are contained within RMaster, but are
6		post optimization. To access the Quantity contents of the RMaster file, the user
7		would select "Quantity and Customer Counts" as the "Report Data Source" on the
8		Report screen of BACE. Also, the Demonstration database allows the user to
9		open intermediate results tables, including table QMaster.
10		
11		In addition, it appears that Mr. Dickerson was able to utilize the quantities in
12		BACE since his confidential Exhibits KWD-4 and KWD-5 to his rebuttal
13		testimony include line quantity counts by year for several wire centers. So
14		although he may not have been able to find the table name, he was able to identify
15		and extract the data he required from BACE.
16		
17	Q.	ON PAGE 6 MR. DICKERSON STATES THAT "THE RMASTER
18		RESULTS TABLE IS NOT AVAILABLE FOR REVIEW ..." IS THERE A
19		TECHNIQUE TO VIEW THE RMASTER DATA?
20		
21	A.	Yes. As noted above, the post optimization Quantity contents of RMaster are
22		available from the reporting screen. In addition, the revenue contents of RMaster,
23		post optimization, are available through the use of the Reporting screen of BACE.
24		To access this revenue data, the user would select "Revenue and Cost" as the
25		"Report Data Source" on the Report screen of BACE and select "Rev" as the

1		"Account Category" as the filter. Also the new Demonstration database allows
2		the user to open intermediate results tables, including table RMaster.
3		
4	Q.	**MR. DICKERSON (REBUTTAL PAGE 2, LINES 14-17) INDICATES**
5		**THAT BACE IS "FATALLY FLAWED." MR. WOOD (REBUTTAL**
6		**PAGE 2, LINE 10) INDICATES THAT BACE IS STRUCTURALLY**
7		**LIMITED. WHAT IS YOUR RESPONSE?**
8		
9	A.	I disagree. While some of the parties have identified what they may believe are
10		unusual results (which I will describe later in my testimony), there is nothing in
11		the testimony of Mr. Dickerson, Mr. Webber, Mr. Wood, Dr. Staihr, or Dr. Bryant
12		that indicates anyone has identified any fatal errors, or for that matter any errors,
13		in the model platform or model operations. Outside of misunderstandings of the
14		operations of BACE, all the issues that have been raised in regard to BACE and
15		its output are input driven. In fact, Dr. Bryant states (page 31 of his Rebuttal): "I
16		cannot fault the general approach outlined in Mr. Stegeman's testimony and in the
17		model documentation."
18		
19	Q.	**DESPITE CRITICISMS, HAVE OTHER WITNESSES USED BACE TO**
20		**SUPPORT THEIR POSITIONS?**
21		
22	A.	Yes. While some of the reviewers claim that BACE is flawed, the reviewers use
23		the model, with inputs of their choice, to support their own positions. For
24		example, Mr. Wood states (rebuttal page 2, line 13): "it is impossible in many
25		cases to populate the model with meaningful input values" and (rebuttal page 22):

1		"I have not been able to determine whether the model calculations are
2		accurate...renders the results unreliable." Yet on page 19, lines 20 and 21 he
3		states: "When inputs and assumptions are used that do reflect such reasonable
4		judgment, the results of the BACE indicated that a rational CLEC ...." and at
5		page 8, line 9: "As BellSouth's BACE model can be used to demonstrate . . . ."
6		(emphasis added).
7		
8		It appears that Mr. Wood populated the model with (what he considered to be)
9		meaningful inputs and the results were reliable (unless he is indicating that his
10		inputs and results are not meaningful or reliable). Alternatively, he has
11		concluded, albeit in a circular fashion, that the only reliable and meaningful inputs
12		are those that show impairment in every wire center in Florida. In either case, his
13		approach appears self-serving.
14		
15	Q.	MR. WOOD CLAIMS (PAGE 5 OF HIS REBUTTAL) THE MODEL IS
16		NOT STABLE AND DOES NOT PRODUCE CONSISTENT RESULTS? IS
17		THIS TRUE?
18		
19	A.	Not at all. I will focus specifically upon Mr. Wood in more detail later in this
20		testimony, however, Mr. Wood's accusation is unsupported and unjustified.
21		
22	Q.	ARE YOU MAKING ANY MODIFICATIONS TO BACE WITH THIS
23		FILING TO ENSURE IT PROVIDES THE MOST ACCURATE
24		INFORMATION?
25		

1	A.	I am. As an initial matter, I remain committed to submitting the best possible
2		model to this Commission. This means that any modifications, even minor
3		modifications, will be made, if necessary to present the most accurate version of
4		BACE. There are three corrections I am making with this filing. One correction
5		relates to two wire centers -- MIAMFLAG and HMSTFLAF -- which were
6		inadvertently assigned to the Fort Lauderdale FL CEA in the supplemental filing
7		made on Jan. 21st and which should have been assigned to the Miami FL CEA.
8		This correction can be made manually by correcting the CEA assignment in
9		tblExchangeInfo (within Access) or Exchange Information (within the BACE
10		interface) for the two wire centers.
11		
12		The second correction addresses LATA codes within the BellSouth scenario.
13		Inadvertently, the original data had a mix of 3 digit and 5 digit LATA codes. The
14		5 digit codes are actually sub-LATAs and were not intended for use within
15		BACE. Subsequently, the 4th and 5th digits are being truncated, thereby reducing
16		the "LATA" count in the model from 10 to 7.
17		
18		Third, in creating the mileage from the wire centers to the access tandem in the
19		LATA for the truncation issue noted above, we discovered that the mileage values
20		in the current BellSouth scenario were calculated incorrectly. These distances
21		have been corrected.
22		
23		While these changes can be made manually, the number of changes is easier to
24		handle by issuing an updated BellSouth scenario. To that end, an updated

1   BellSouth scenario (BellSouth_FL_Refiled_Jan28) can be downloaded from the

2   BACE support site (topp.costquest.com).

3

4   The update to this scenario is the replacement of the tblExchangeInfo and

5   tblLocHierarchy tables. A user should be aware that older scenarios will be

6   incorrect. The user can either replicate the changes they have made to this new

7   scenario or simply copy tblExchangeInfo and tblLocHierarchy from the new

8   scenario to any old scenario.

9

10   Section 3.

11   **THE REBUTTAL BY CLECS CONCERNING BACE IS INCONSISTENT AND**

12   **CONTRADICTORY**

13

14   **Q.**   **EARLIER YOU STATED THAT THE REBUTTAL TESTIMONY BY THE**

15   **CLEC WITNESSES IS INCONSISTENT AND CONTRADICTORY**

16   **REGARDING BACE. PLEASE EXPLAIN THIS STATEMENT.**

17

18   **A.**   There are four major areas of inconsistency and contradiction: 1) whether the

19   fundamental BACE approach is reasonable; 2) whether BACE is sensitive or

20   insensitive to changes in inputs; 3) whether BACE optimization should be

21   utilized; and, 4) which inputs are appropriate. I address the first three items in my

22   testimony. With respect to inputs, these will be addressed in the testimony of

23   other BellSouth witnesses such as Drs. Aron and Billingsley.

24

1 Q. **WHAT INCONSISTENCIES EXIST IN THE CLEC WITNESSES**

2 **TESTIMONY REGARDING THE FUNDAMENTAL APPROACH**

3 **UTILIZED BY BACE?**

4

5 A. Mr. Wood makes vague and unsubstantiated claims about the appropriateness of

6 BACE. For example, he states: "the structural limitations of the model cannot be

7 corrected ..." (Wood rebuttal, page 2, line 10) and "I have been able to determine

8 that the model does not consider all barriers to entry, ..." (Wood rebuttal page 22,

9 lines 14, 15).

10

11 In contrast, Dr. Bryant states: "... with one or two exceptions that I discuss below,

12 I cannot fault the general approach outlined in Mr. Stegeman's testimony and in

13 the model documentation." (Bryant rebuttal, page 31, lines 4-6) And, "... I do not

14 disagree with the general approach to estimating CLEC profitability outlined in

15 Dr. Aron's and Mr. Stegeman's testimony." (Bryant rebuttal, page 31, lines 4-6)

16

17 Q. **WHAT INCONSISTENCIES EXIST IN DISCUSSIONS OF WHETHER**

18 **BACE IS SENSITIVE OR INSENSITIVE TO CHANGES IN INPUTS?**

19

20 A. Mr. Wood claims that even slight changes to key inputs yield drastically different

21 results (Wood rebuttal, page 18, lines 15-18). In contrast, Dr. Bryant believes that

22 BACE is not sensitive to at least some input changes (Bryant rebuttal, pages 30-

23 31).

24

1 Q. **IS IT POSSIBLE TO ASSESS MR. WOOD'S CLAIM THAT SLIGHT**

2   **CHANGES TO INPUTS YIELD DRASTICALLY DIFFERENT RESULTS?**

3

4 A. No. Like much of Mr. Wood's testimony regarding BACE, this is an

5   unsubstantiated assertion. Unlike other witnesses reviewing BACE, Mr. Wood

6   does not cite or provide even a single numerical result from BACE. Moreover,

7   Mr. Wood only suggests one input change with any specificity. That change is

8   the suggested 5.1% annual price change (based on a review of long distance

9   prices 1984-1993). Even in this case, he does not specify whether he would apply

10   this change to the default input values (which already reflect price reductions

11   below existing prices).

12

13 Q. **WHAT INCONSISTENCIES EXIST ACROSS THE PARTIES IN**

14   **DISCUSSIONS OF WHETHER THE BACE OPTIMIZATION ROUTINES**

15   **SHOULD BE UTILIZED?**

16

17 A. Dr. Staihr suggests that some, but not all, of the BACE optimization toggles

18   should be turned off. In addition, Dr. Staihr adds the equivalent of a new user-

19   created optimization: "Sprint eliminated the lowest quintile of residential

20   customers ..." Indeed, the elimination of the lowest quintile of residential

21   customers obviously more than offset turning off three of the BACE optimization

22   toggles (since he notes the somewhat higher overall NPV in the Sprint run for

23   BellSouth's markets as compared to BellSouth's BACE runs) (Staihr rebuttal,

24   page 18).

25

1	In contrast, Mr. Wood appears to believe that segmentation, optimization and
2	cream skimming are to be abhorred and no amount of data could convince him
3	that they do, or even could, exist (Wood rebuttal, pages 32-37). Mr. Wood claims
4	that firms investing in switches "... will have the incentive to serve as many
5	customers as possible as quickly as possible ... and will hardly be in the position
6	to be selective about its customer base." (Wood rebuttal, pages 35-36) (the error
7	of this argument is discussed by Dr. Aron).
8	
9	Mr. Dickerson runs BACE with the optimization filters off (e.g. Dickerson
10	rebuttal, page 33, line 15), but later complains that now some wire centers and
11	some customers segments for wire centers now have negative NPVs (Dickerson,
12	pages 31-34) and it is possible for one to aggregate profitable and unprofitable
13	segments and geographic areas. Dr. Bryant used a similar approach is used
14	(rebuttal page 33), with a similar complaint: that now positive and negative NPV
15	results can be aggregated together (citing one wire center with negative NPV
16	mass market customers, but more than compensating positive NPV enterprise
17	customers). It appears the solution is the continued use (rather than the
18	abandonment) of a number of the optimization filters. More importantly, the
19	power and (ease of use) of the BACE model allows Dr. Bryant, and Mr.
20	Dickerson to consider (and describe in their rebuttal testimony) results at such a
21	granular level of detail (e.g., NPV by customer type by wire center).
22	
23	Section 4. **CLARIFICATION OF BACE FEATURES AND**
24	**MISINTERPRETATIONS OF BACE**
25	

1 Q. MR. WOOD CLAIMS THAT BACE PRICE INPUTS DON'T REFLECT

2   VARIATIONS IN RETAIL PRICES ACROSS THE STATE. IS HE

3   CORRECT?

4

5 A. No. While the quintile (in the case of retail customer's) average price/average

6   revenue per user (ARPU) is determined at the state level, the number and the

7   percentage of customers falling into each quintile (for residence for example)

8   varies by wire center based on both the retail prices that actually exist in the wire

9   center and the propensity of customers in the wire center to purchase services in

10   each of the major service categories.

11

12   For example, if wire center A is in a low-priced rate center (i.e., customers facing

13   low tariffed rates), it will tend (other things being equal) to have customers with

14   actual spend characteristics that are below the state wide average and will

15   therefore have a higher proportion of mass-market customers in the lower spend

16   quintiles. If wire center B is in a high-priced rate center, its customer's actual

17   spend levels are likely to be relatively high and they will tend to have a higher

18   proportion of mass-market customers in the higher spend quintiles.

19

20   Mr. Wood's claim (rebuttal page 37, line 23 - page 38, line 3) that customers are

21   "allocated" from the state level down to wire centers is incorrect. And while the

22   actual spend information by individual customers is not retained from the original

23   data source, actual customer spend information by wire center is used to

24   determine the number of customers in each wire center that fall into each of the

25   customer spend categories.

1		From this starting point of actual expenditures by wire center by customer group,
2		the user can establish starting CLEC price discounts, changes in the discounts
3		over time, starting bundle prices, and changes in bundle prices over time.
4		
5	Q.	MR. WEBBER STATES (REBUTTAL PAGES 5 AND 6) WITH REGARD
6		TO EELS THAT "THE BACE MODEL RELIES ON NETWORK
7		ARCHITECTURES THAT ARE COMPLETELY UNPROVEN IN THE
8		MARKET." CAN YOU CLARIFY HOW EELS WORKS WITHIN BACE
9		AND COMMENT ON MR. WEBBER'S ASSERTION?
10		
11	A.	Yes. In regard to EELs, if the user specifies, the model will determine whether
12		collocation or EELs will be used on a wire center by wire center basis. This
13		determination considers the difference in NPV between a full collocation
14		approach and a full EELs approach at each wire center. Regardless of one's
15		perspective regarding the use of EELS, Mr. Webber is incorrect since the user of
16		the model is free to turn EELs completely off so that only collocation is used.
17		Moreover, in a run that I made without EELs, no market changed in classification
18		(impaired / non-impaired), no wire center changed from positive to negative NPV,
19		and the total CLEC NPV decreased by less than $300,000 or by less than one
20		tenth of 1%. Obviously, whether EELs are employed or not is not a critical issue
21		(indeed, it is virtually irrelevant) in the determination of impairment.
22		
23	Q:	IS MR. DICKERSON'S COLLOCATION BUILD OUT COST ANALYSIS
24		AN APPLES-TO-APPLES COMPARISON?
25		

1	A:	No. In Mr. Dickerson's attempts to compare the ColloBuildOut cost element
2		within BACE to Sprint's collocation build out costs, he has incorrectly included
3		Sprint's engineering and DC power cabling costs in the comparison because these
4		costs are included elsewhere in BellSouth's filed inputs to BACE, which I will
5		discuss later in this testimony. Thus, Mr. Dickerson's conclusion that BACE has
6		understated the costs related to collocation build-out is based on a flawed
7		analysis.
8		
9	Q:	**HAVE YOU BEEN ABLE TO CORRECT MR. DICKERSON'S ANALYSIS**
10		**TO MAKE A FAIR COMPARISON OF THE COLLOBUILDOUT COST**
11		**ELEMENT WITH SPRINT'S COSTS AS IDENTIFIED IN KWD-4?**
12		
13	A:	Yes. Holding aside a determination as to whether Mr. Dickerson's values are
14		correct (or not) and whether his DC power assumptions are correct, removing the
15		Engineering Initial, Engineering Augment and Power Cabling costs from Mr.
16		Dickerson's analysis (since they are accounted for elsewhere in BACE) changes
17		the results significantly. Rather than underestimating ColloBuildOut costs by
18		554% for the six (6) randomly selected wire centers as Mr. Dickerson suggests,
19		Mr. Dickerson's analysis indicates that BACE over-estimates ColloBuildOut
20		costs by 50% as can be seen in the table below.
21		
22		
23		
24		
25		

			a	b	c = a-b	d = c/b
			Sprint Calc of	BACE Calc of		
		DS0 Lines	Collo Build	ColloBuildOut		Percent
Line	Wire Center	Year 10	Out NPVs	NPVs	Difference	Difference
1	DYBHFLPO	6,605	$3,072	$6,898	$(3,826)	-55%
2	HLWDFLPE	17,440	$3,072	$6,998	$(3,926)	-56%
3	MIAMFLOL	3,990	$3,072	$5,988	$(2,916)	-49%
4	MRTHFLVE	1,311	$3,072	$5,759	$(2,687)	-47%
5	PRSNFLFD	339	$3,072	$5,724	$(2,652)	-46%
6	SBSTFLMA	2,253	$3,072	$5,856	$(2,784)	-48%
7	Total		$18,432	$37,223	$(18,791)	-50%

1

2 **Q:** **WHERE ARE CLEC ENGINEERING AND DC POWER CABLING**

3 **COSTS CAPTURED WITHIN BACE?**

4

5 A: BACE captures the initial engineering of collocation space (and augments) as part

6 of the general engineering costs which are included in the G&A costs of BACE.

1   This is noted in BellSouth's response to interrogatory No. 6 of Sprint's Third Set

2   of Interrogatories. An excerpt from the response follows:

3

6512	Provisioning expense	G&A
6531	Power expense	G&A
6533	Testing expense	G&A
6535	Engineering expense	G&A

4

5   Further, as noted in BellSouth's response to No. 15 of Sprint's Fifth Set of

6   Interrogatories, the costs related to DC power cabling is captured as part of the

7   cost generated via the application of the InPlant and Power factors to the

8   collocation equipment (e.g., DLC, multiplexing, etc). Since these factors are

9   applied within BACE whenever the CLEC requires additional capacity due to

10   demand, these costs are demand sensitive.

11

12   Q: **MR. DICKERSON CLAIMS THAT THE BACE COLLOCATION BUILD-**

13   **OUT COSTS ARE NOT DEMAND-SENSITIVE. IS THIS CORRECT?**

14

15   A: No. While it is true that the ColloBuildOut cost element in BACE is not demand

16   sensitive, Mr. Dickerson's failure to properly identify other collocation cost

17   elements has lead to his misunderstanding and further demonstrates flaws in his

1		analysis. As just noted, DC Power cabling costs that Mr. Dickerson has included
2		as part of collocation build out are captured by BACE within the factors which are
3		applied to collocation equipment and are thus demand sensitive. In addition,
4		although Mr. Dickerson's analysis ignores these costs completely, and as noted in
5		Wayne Gray's surrebuttal testimony, BACE includes the non-recurring cost of
6		Cable Records, rates for which are based per 100 pair.
7		
8	Q:	ARE THERE POTENTIAL DEMAND-SENSITIVE COSTS INCLUDED IN
9		BACE AS FIXED COSTS?
10		
11	A:	Yes. For ease of modeling and based on the relative magnitude of these potential
12		demand-sensitive costs relative to the overall CLEC costs, BellSouth has made
13		some assumptions and captures these costs as part of a fixed monthly collocation
14		cost element. For example, although Mr. Dickerson is correct that floor space
15		requirements are dependent on the number of frames required which is ultimately
16		dependent on demand (non-linear), BACE assumes that each CLEC cageless
17		collocation site has 100 square feet. As noted in the surrebuttal testimony of Mr.
18		Wayne Gray, the use of 100 square feet should provide ample space at most
19		collocation sites (and is thus somewhat conservative). However, given that floor
20		space accounts for only a fraction (0.18%) of the overall CLEC PV cost, and the
21		additional modeling rigor required to account for these relatively minor costs,
22		BellSouth decided to make a standard, conservative assumption to capture these
23		costs.
24		

1 Q: **ARE MR. DICKERSON'S CLAIMS THAT BACE UNDERESTIMATES**

2   **DC POWER CONSUMPTION COSTS SIGNIFICANT?**

3

4 A: No. Even if we were to assume that the underlying assumptions and inputs used

5   in Mr. Dickerson's analysis are correct, the changes suggested have a minimal

6   impact on the BACE results. Based on results from the original BACE filing in

7   FL that Mr. Dickerson analyzed, the power consumption cost accounts for

8   approximately 30% of the MonthlyCollo cost element. But with the total PV cost

9   of MonthlyCollo representing only 0.5% of the total PV cost for the CLEC, the

10   affect of changing the power assumption would impact only 0.15% of the total

11   CLEC cost.

12

13   Finally, it is important to note that the user of BACE decides what inputs should

14   be broken out in more detail and how the costs are triggered and driven. That is,

15   the user limits input specificity, BACE does NOT limit the specificity.

16   Therefore, if Mr. Dickerson feels that the cost for power input is insufficient and

17   needs to be adjusted, he can make changes to the inputs to capture his desired

18   specificity.

19

20 Q. **MR. DICKERSON STATES (REBUTTAL PAGE 12) THAT THE**

21   **COLLOCATION VS. EELS OPTIMIZATION WITHIN THE BACE**

22   **MODEL IS UNRELIABLE. PLEASE RESPOND.**

23

24 A. First, note that Mr. Dickerson's characterization of the collocation vs. EELs

25   optimizations is based solely on his claims regarding costs; he does not appear to

1		provide any consideration of revenues. It also appears that Mr. Dickerson has
2		misunderstood how this optimization in the BACE model is performed. The
3		collocation/EELs optimization routine within the BACE model does not simply
4		compare the initial costs (or PVs) of implementing collocation and EELs. Such
5		an approach would be short-sighted and insufficient to represent a sound business
6		case analysis as is required by the TRO. Rather, the BACE model optimization is
7		a comparison of the 10-year NPV (revenue less cost) associated with the
8		collocation and EELs approaches. All possible revenue streams and cost outlays
9		are included in the NPV analysis ensuring that the most economic approach is
10		selected. Key components of the differences between the EELs and collocation
11		scenarios are:

12 1. DSL service can only be offered in the collocation scenario. Therefore,

13 the EELs scenario is (potentially) at a significant revenue disadvantage

14 depending on the CLEC demand of the wire center.

15 2. Collocation thus has the additional burden of the DSL costs, but since

16 DSL can provide positive contribution, the collocation scenario has an

17 advantage.

18 3. EELs transport from the BellSouth end office to the BellSouth Access

19 Tandem is not concentrated and thus is significantly more expensive than

20 the concentrated transport that is used when the CLEC collocates at the

21 end office.

22

23 **Q. DR. BRYANT SUGGESTS (REBUTTAL PAGE 31) THAT BACE**

24 **SOMETIMES PRODUCES "ANOMALOUS RESULTS." PLEASE**

25 **COMMENT ON THIS.**

1   At page 31 of his rebuttal testimony, Dr. Bryant states that he increases "…

2   customer churn rate from 6.5% to 8.33%. All other inputs to the model were

3   held constant." He claims that this resulted in 29 wire centers becoming more

4   profitable. I attempted to replicate Dr. Bryant's finding by changing the churn of

5   Mass Market customers only, changing the churn all customers, leaving

6   optimization as filed, and turning it off. In each instance, when I increased the

7   customer churn rates, NPV declined. Based on my review, I suspect that Dr.

8   Bryant changed more than one input value. Perhaps he created a scenario with

9   one input change, then he made an additional change without changing and

10   renaming the scenario.

11

12   Section 5. **ADDITIONAL REBUTTAL OF MR. WOOD**

13

14   Q.   **DOES MR. WOOD MAKE UNDOCUMENTED ASSERTIONS**

15   **REGARDING BACE?**

16

17   A.   Yes. Mr. Wood makes a variety of claims and assertions regarding BACE.

18   However, unlike other witnesses in this proceeding, he fails to provide a single

19   numerical result from BACE, nor does he provide an exhibit with any BACE

20   results. Such undocumented assertions provide no available information by

21   which his assertions can be evaluated, and should be viewed with skepticism

22   given the lack of foundation.

23

1   **Q.**   **DOES MR. WOOD CONFUSE SHORTCOMINGS OF A MODEL (BACE**

2   **IN THIS CASE) WITH DISAGREEMENT REGARDING INPUT**

3   **CHOICES?**

4

5   **A.**   Yes. At several points in his rebuttal testimony, Mr. Wood makes assertions

6   regarding BACE, but only provides associated rhetoric related to the choice of the

7   input values. For example, at page 38, he states: "The BACE goes on to assign

8   different CLEC market share for the different customer spending segments ...".

9   The user of course determines CLEC shares by segment, over time if they choose.

10   However, as I note elsewhere in my surrebuttal testimony, when Mr. Wood

11   populates the model with unspecified inputs of his choosing it provides results he

12   finds comport with his view of the world.

13

14   **Q.**   **DOES MR. WOOD MAKE UNDOCUMENTED AND MISLEADING**

15   **ASSERTIONS REGARDING CRASHES OF THE BACE MODEL?**

16

17   **A.**   Yes. At page 5 of his rebuttal he asserts that he has not been able to complete

18   analysis of BACE, apparently in part since "[o]ur efforts continue to be

19   encumbered by the frequent crashes of the model and the limitations of the model

20   wizard." I have several responses.

21

22   First, Mr. Wood's comment is surprising in light of the fact that in operating

23   BACE, I (and my team) and the LECG team have had no problems with crashes.

24   I have determined that the model is stable, consistent, and operates as stated in the

25   documentation.

1	Second, I am unaware of similar complaints from other parties. Given the
2	number of runs documented by Sprint and MCI in their rebuttal testimony, the
3	natural conclusion would be that problems with crashes in BACE would have
4	been raised through these parties, had they occurred.
5	
6	Third, emails and phone calls to the BACE model support team are illustrative.
7	When an employee of Wood and Wood Consulting contacted BellSouth's BACE
8	support manager in early December 2003, raising concerns with initial slow run
9	times and log-in problems in running BACE, these concerns appeared to be
10	caused because an attempt to run BACE in a shared-server environment. BACE
11	was not designed to run in, nor was it tested for, a shared-server environment.
12	These concerns appeared to be resolved by December 11, 2003 through the use of
13	BACE on a stand-alone computer platform. Thereafter, BellSouth responded to
14	additional questions from Wood and Wood consulting about how to perform runs
15	on the model from December 11-15, 2003. However, no concerns relating to
16	frequent "crashes" were raised between December 11, 2003 (once the appropriate
17	computer platform was used) and the filing of Mr. Wood's rebuttal testimony.
18	
19	Since Mr. Wood's rebuttal testimony was filed with this Commission on January
20	7, 2004, nearly four weeks later, to state that AT&T's "efforts continue to be
21	encumbered by frequent crashes ..." (emphasis added) is misleading. On January
22	15, 2004, after Mr. Wood's rebuttal testimony was filed, a concern relating to
23	crashes was communicated to BellSouth. The timing of this "concern", in light of
24	Mr. Wood's other unsubstantiated claims, seems somewhat questionable.
25	

1   Q.   **MR. WOOD ALSO COMPLAINS THAT LIMITATIONS OF THE BACE**

2   **MODEL WIZARD HAVE ENCUMBERED HIS EVALUATION OF BACE**

3   **(WOOD REBUTTAL PAGE 5). IS THIS A VALID COMPLAINT?**

4

5   A.   Certainly not, for at least three reasons. First, the user has the option to either use

6   the BACE wizard, or create and run scenarios outside the wizard. Second, other

7   models (e.g. HCPM, BCPM) either do not have a wizard, or do not have an

8   extensive wizard. Third, the BACE model wizard is designed for ease of use,

9   especially for those without the skill or time to examine the model in great detail.

10   Anyone genuinely seeking to evaluate a model, and having the skills to even

11   initially evaluate a model, should not need to rely only on a model wizard alone.

12   For example, any party requesting the source code to a model should not need to

13   rely upon the model wizard for evaluation. Claiming that the limitations of a

14   model wizard creates an encumbrance to review is akin to an auto mechanic

15   claiming that a car needs more gauges and lights by the steering wheel in order to

16   readily evaluate the engine; popping the hood is still an option if you are actually

17   a mechanic.

18

19 Q.   **MR. WOOD STATES (REBUTTAL, PAGE 21, LINE 18) THAT BACE**

20   **HAS NO PLACE TO ENTER A PROJECT BETA. IS IT NECESSARY TO**

21   **INPUT A PROJECT BETA IN ORDER TO CALCULATE ECONOMIC**

22   **IMPAIRMENT?**

23

24 A.   No. From a modeling perspective, BACE provides input values for the pre-tax

25   cost of capital, the cost of equity, federal and state tax rates and the proportion of

1		equity. Nothing more is required to determine the cost of capital used in BACE.
2		As Dr. Billingsley has described, beta is fully reflected in these values, so there is
3		no further role for beta to play. To the best of my knowledge, no other
4		telecommunications cost model (e.g., BCPM, HCPM, HAI, BSTLM) allows for
5		the specific input of a project beta. Indeed, it appears that AT&T's cost
6		disadvantage model does not allow the input of a beta.
7		
8	Q.	MR. WOOD ASSERTS (REBUTTAL PAGE 26, LINES 16-18) THAT IT IS
9		IMPOSSIBLE TO ACCURATELY DETERMINE THE REVENUES THAT
10		A CLEC IS LIKELY TO RECEIVE WITHOUT THE ABILITY TO INPUT
11		FUTURE PRICE CHANGES BY WIRE CENTER. DO YOU AGREE?
12		
13	A.	No, for several reasons. First, as I discussed above, BACE already leverages a
14		powerful database that reflects actual prices and actual spend levels by wire
15		center. Therefore, the starting market prices and customer expenditures are
16		specific to the wire center and customer segment.
17		
18		Second, BACE allows the user to determine CLEC price discounts by customer
19		segment, by market, over time (if the user wishes). BACE also allows the user to
20		establish bundle prices by customer segment by market and changes in bundle
21		prices over time. Further, BACE allows the user to determine CLEC penetration
22		by customer segment over time. In designing BACE, there seemed to be no need
23		to forecast prices changes on a wire center basis.
24		

1	Third, it is unreasonable to expect a user would be willing to perform the task of
2	inputting even initial prices by wire center, let alone forecast future prices by wire
3	center. BellSouth has a large number of wire centers in its service area in Florida
4	each with 17 customer-spend categories in BACE. Each of these would have with
5	approximately 15 services, each requiring data (under Mr. Wood's approach) for
6	10 years; this leads to over a half million data entries.
7	
8	Fourth, Mr. Wood's claim that wire-center level price forecasts are necessary is at
9	odds with AT&T's model which provides no price information, nor ability to
10	input price forecasts of any kind.
11	
12	Fifth, Mr. Wood's claim that wire-center level price forecasts are necessary is at
13	odds with his prior claim (rebuttal page 5) that he and his team are encumbered by
14	the limitations of the BACE wizard. Recall that Mr. Wood is also the only party
15	to complain about the limitations of the wizard. Logic suggests that Mr. Wood
16	should be the last party to attempt the daunting and unnecessary task of
17	forecasting prices by wire center
18	
19	**Q.** **MR. WOOD CLAIMS "THE [BACE] USER HAS NO ABILITY TO**
20	**CONSIDER A SHORTER INVESTMENT HORIZON [THAN 10 YEARS]**
21	**THAT A RATIONAL INVESTOR WOULD CONSIDER BEFORE**
22	**MAKING AN INVESTMENT IN A LARGE, FIXED ASSET SUCH AS A**
23	**LOCAL CIRCUIT SWITCH." WHAT IS YOUR REACTION?**
24	

1 A. First, Mr. Wood's statement is at odds with the time horizon of AT&T's cost

2   disadvantage model. Mr. Turner indicates (direct, page 27, line 23) that AT&T's

3   analysis uses a 10-year study period.

4

5   Second, my team has examined the inputs to the model, both the Input Portfolio

6   attached to Turner's testimony and the software itself, and there does not appear

7   to be any mechanism to change the study period. We can only assume that the

8   overall study period of AT&T's model is fixed at ten years.

9

10   Third, other models use a 10-year period or a longer period for the evaluation of

11   economic impairment. The NRRI model (the pre-cursor of Dr. Bryant's model)

12   used asset lives to determine impairment analysis through a TELRIC type costing

13   approach. As such, the time horizon for the costs of assets ranges from 6-30

14   years. The switch was ten years. In looking at other industry models, the SPR

15   model submitted in other states actually uses a 25-year time horizon for cash

16   flows.

17

18   Fourth, in is my understanding that AT&T and MCI have consistently advocated

19   the use of FCC depreciation lives in cost proceedings. My understanding is that

20   the prescribed FCC depreciation lives applicable to BellSouth range from 8 to 30

21   years, depending on the type of equipment and the low and high ranges.

22   Moreover, Mr. Turner employed a 13-year switch life input in the AT&T model.

23   However, in his rebuttal testimony, Mr. Wood implies that a switch needs to be

24   recovered in some period less than ten years. Certainly, a 10-year study period is

25   conservative for assets with lives longer than ten years.

1   Fifth, BACE allows at least an approximation of shorter period analyses by

2   zeroing out market share inputs for later years, although as discussed by Dr. Aron

3   this type of procedure, if done correctly, should not alter the NPV of the CLEC.

4

5   Section 6. **BACE IS CLEARLY SUPERIOR TO AT&T'S MODEL IN MEETING**

6   **THE REQUIREMENTS OF THE TRO AND CRITERIA DISCUSSED BY MR.**

7   **WOOD.**

8

9   Q.   **ISN'T AT&T THE SAME PARTY THAT SPONSORED A MODEL THAT**

10   **MR. WOOD CLAIMED IS RELEVANT FOR THIS PROCEEDING?**

11

12   A.   Yes, and Mr. Wood mentions Mr. Turner's results (Wood rebuttal pages 14 and

13   15).

14

15   Q.   **GIVEN THE MODEL REQUIREMENTS IMPLIED BY THE TRO, AND**

16   **THE MODEL CRITERIA DISCUSSED BY MR. WOOD, HOW DOES**

17   **BACE COMPARE WITH THE AT&T MODEL?**

18

19   A.   BACE is clearly superior.

20

21   Q.   **MR. WOOD (REBUTTAL PAGE 29) CLAIMS THAT BACE FAILS TO**

22   **MEET THE BASIC REQUIREMENTS FOR AN IMPAIRMENT MODEL**

23   **THAT YOU SPECIFY IN YOUR DIRECT TESTIMONY. PLEASE**

24   **COMPARE AND CONTRAST BELLSOUTH'S BACE MODEL WITH**

25   **AT&T'S MODEL.**

1 A. In my direct testimony I discussed at length (pages 8-18) the characteristics that

2   must exist for a model to be consistent with the TRO. Below I provide a table

3   with the four major categories of characteristics, comparing how BACE and

4   AT&T's model meet the four required characteristics.

5

Characteristic	BACE	AT&T model
1) Capable of granular analysis	yes	yes as to cost, no as to revenue
2) Consistent with efficient CLEC business model & architecture	yes	no
3) Incorporate all likely CLEC revenues and costs	yes	no
4) Perform a business case analysis using NPV	yes	no

6

7 Q. **PLEASE EXPLAIN THE ENTRIES IN THE TABLE ABOVE.**

8

9 A. In my direct testimony I described in detail how the BACE model meets these

10   four major characteristics. Thus, I will briefly describe the entries for the AT&T

11   model only. First, in regard to "Capable of granular analysis," while the AT&T

12   model considers some cost information at the wire center level, its level of

13   granularity is not sufficient for this proceeding since it is does not consider key

14   information on all CLEC cost components. In addition, the AT&T model has no

15   information at a gross or granular level regarding revenues. Having a model that

16   is capable of granular analysis for only a subset of the information needed to

17   assess economic impairment is simply not useful. This is analogous to needing

1	detailed loop costs but only having the granularity in the feeder portion of the
2	loop; it simply doesn't provide sufficient information to meet the needs of the
3	Commission in this proceeding.
4	
5	Second, concerning "Consistent with efficient CLEC business model &
6	architecture," the AT&T model does not provide for optimization in CLEC
7	service offerings and engineering, does not consider all potential CLEC product
8	offerings, and does not consider all potential customers (e.g., across multiple
9	ILECs in a wire center). If a model does not consider the opportunities for a
10	CLEC to optimize its business, it will tend to overstate CLEC costs and/or
11	understate CLEC revenues; this could lead to an erroneous finding of impairment.
12	
13	Third, regarding "Incorporate all likely CLEC revenues and costs," the AT&T
14	model does not consider revenues at all, and it ignores certain CLEC costs. Thus,
15	the AT&T model fails to provide any meaningful result; it only provides a cost
16	/output picture that is, incomplete, and insufficient to satisfy the requirements of
17	the TRO.
18	
19	And fourth, concerning "Perform a business case analysis using NPV," while the
20	AT&T model does appear to use some present value calculations, it does not
21	perform a business case analysis. A net present value calculation reflects the
22	present value of revenues net of the present value of costs; yet the AT&T model
23	does not consider revenues nor does it consider all relevant costs. Because the
24	AT&T model has no revenue information at all, it cannot provide an NPV

1		calculation and cannot be utilized to measure economic impairment as established
2		within the TRO.
3		
4	Q.	**CAN YOU ELABORATE ON THE SECOND (OF THE FOUR MAJOR**
5		**MODEL CHARACTERISTICS YOU LIST ABOVE), WHICH REFERS TO**
6		**AN EFFICIENT CLEC BUSINESS MODEL AND DESCRIBE WHETHER**
7		**BACE AND THE AT&T MODEL SATISFY THIS CHARACTERISTIC?**
8		
9	A.	Yes. In order to satisfy the TROs requirements to reflect an efficient CLEC's
10		activities, BACE allows the user to incorporate CLEC optimizing activities that
11		could lead to either lower CLEC costs or greater opportunities for CLEC
12		revenues. In the table below, I have identified some of the key dimensions over
13		which a CLEC might optimize its network or its service offerings in order to be
14		efficient, and whether each of the models allows optimization for that dimension
15		of activity.

Dimension Over Which to Optimize	BACE	AT&T model
1) EELs or collocation	yes	no
2) DSL within the wire center	yes	no
3) Provide (or not provide) service in total for a wire center	yes	no
4) Provide (or not provide) service for Mass Market customers for a market	yes	no
5) Provide (or not provide) service for Enterprise customers for a market	yes	no
6) Provide (or not provide) CLEC service in total for a market	yes	no

7) Provide (or not provide) CLEC service in total for a LATA	yes	no
8) Place (or not place) a switch in each LATA	no	no
9) Place (or not place) a fiber ring	no	no

1

2 Q.   **WHAT IS THE IMPLICATION OF BOTH BACE AND THE AT&T**

3   **MODEL NOT OPTIMIZING ON ITEMS 8 AND 9 IN THE TABLE**

4   **ABOVE?**

5

6 A.   Any model that does not incorporate an opportunity for the CLEC to reduce costs

7   or gain revenues, by not providing optimization in a dimension of CLEC

8   activities, has the potential to overstate the CLEC's costs, or understate revenues.

9   Such omissions therefore have the potential to overstate impairment, i.e. to

10   indicate economic impairment when it does not actually exist. BACE is therefore

11   conservative in these two dimensions and it may overstate CLEC costs. As a

12   result, BACE may overstate economic impairment. The AT&T model is very

13   conservative (it may overstate CLEC costs) since it does not optimize in any of

14   the dimensions listed in the table above and further the AT&T model does not

15   model any CLEC revenues.

16

17 Q.   **MR. WOOD CLAIMS (REBUTTAL PAGE 22, LINES 14-16) THAT BACE**

18   **DOES NOT REFLECT ALL CLEC BARRIERS TO ENTRY. HOW DOES**

19   **BACE COMPARE TO THE AT&T MODEL WITH RESPECT TO**

20   **CAPTURING ALL CLEC COSTS?**

21

1   A.   Beginning at page 51 of my direct testimony, I list 15 cost items that are discussed

2   in the TRO and I describe how these cost items are included in BACE. While

3   AT&T's model incorporates many of the 15 cost items, it does not incorporate the

4   following (numbered in the same fashion as my original list of 15):

5   1) "Costs of purchasing and installing a switch" (TRO, ¶ 520);

6   2) "[T]he recurring and non-recurring charges paid to the incumbent LEC for

7   loops" (e.g., TRO, ¶ 520, and n. 1588) (The AT&T model only considers

8   the non-recurring costs);

9   5) "[T]he recurring and non-recurring charges paid to the incumbent LEC for

10   ... signaling" (TRO, paragraph 520); 9) "taking into consideration ... the

11   scale economies inherent to serving a wire center and the line density of

12   the wire center." the AT&T model deploys various levels of equipment

13   capacity and collocation space dependent upon the number of lines they

14   expect to serve in each wire center. However, the model serves all wire

15   centers regardless of the economics of serving all wire centers and

16   therefore it fails to reflect an efficient CLEC (see the rebuttal testimony of

17   Dr. Aron).

18   13) "taking into consideration ... the cost of maintenance, operations" (TRO,

19   ¶ 520); and 14); "taking into consideration ... the cost of ... other

20   administrative activities" (TRO, ¶ 520). (Underlining in my original

21   direct testimony.)

22

23   Q.   **MR. WOOD COMPLAINS (PP. 23-27) ABOUT BACE'S TREATMENT OF**

24   **REVENUES AND PRICES. PLEASE COMPARE AND CONTRAST**

25   **BACE AND THE AT&T MODEL IN THESE DIMENSIONS.**

1   A.   In the table below I compare BACE & the AT&T model with respect to their

2   treatment of prices and revenues in relation to the TRO requirements and the

3   complaints by Mr. Wood.

4

Item	BACE	AT&T
Incorporates initial prices via a detailed database on revenues	yes	no
Incorporates geographic differences in the initial prices by wire center via variations in revenues by customer spend categories by wire center	yes	no
Number of major product categories	6	model has no revenue
Allows CLEC to introduce services over time	yes	no
Allows the use of initial CLEC price discount for a la carte services	yes	no
Considers the size of the total market in determining revenues	yes	no
Considers the effects of bundles of services	yes	no
Allows user to input price changes for a la carte prices	yes	no
Considers CLEC penetration in determining CLEC revenue	yes	no
Allows user to input price changes for bundle prices	yes	no
Allows changes in CLEC penetration over time and its affect on revenue	yes	no

Allows the user to vary price changes by service category (e.g., long distance)	yes	no
Provides a user with hundreds or thousands of pages of inputs to allow the user to establish prices by wire center	no	no
Allows the user to input different CLEC penetration rates by customer spend group	yes	no

1

2 Q. **ARE THERE OTHER COMPARISONS BETWEEN THE MODELS THAT**

3   **ARE RELEVANT BASED ON THE TRO AND MR. WOOD'S REBUTTAL**

4   **TESTIMONY?**

5

6 A. Yes. In the table below I list other comparisons that are relevant for the

7   Commission in evaluating a model to assess economic impairment.

Item	BACE	AT&T
Number of years considered	10	10
Allows user to consider salvage value of equipment	yes	yes (but input is zero)
Provides a model wizard	yes	no
Considers income taxes	yes	no
Considers calculations of net income	yes	no
Allows the user to enter a project beta	no, not necessary	no, not necessary
Allows for revenue and penetration trends	yes	No for revenue, allows

		demand trend for cost
Allows costs to change over time	yes	no
Sizes equipment to correspond to demand	yes	yes
Allows the user to size equipment for specific number of years	yes	no
Allows the user to consider the economies gained from serving two or more ILEC territories in a LATA	yes	no
Provides a bright line test for impairment	yes	no

1

2 **Q.** **DOES THIS CONCLUDE YOUR TESTIMONY?**

3

4 **A.** Yes it does.