

Exhibit No.:
Issues: Cost of Switched Access
Witness: Ben Johnson, PhD.
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MISSOURI PUBLIC SERVICE COMMISSION

UTILITY OPERATIONS DIVISION

REBUTTAL TESTIMONY

OF

Ben Johnson, PhD.

CASE NO. TR-2001-65

Jefferson City, Missouri
August 1, 2002

****Denotes Highly Confidential Information****

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Rebuttal Testimony of
Ben Johnson PhD.

1 A. No. As I explain throughout my direct testimony, the Staff studies provide
2 reasonable estimates of the “actual” economic cost of intrastate switched access service
3 in Missouri, consistent with the Commission’s directives. Mr. Larson seems to be under
4 the mistaken impression that cost results which are produced by a modeling process
5 cannot fairly be characterized as “actual” costs. Needless to say, I disagree. He states: “A
6 model produces answers that are ‘merely possible’; not actual” (Larson, p. 7) This is not
7 true. Economists use models to dissect and explain complex phenomena, including those
8 which are actually occurring (e.g. actual costs which are being incurred by firms).
9 Models are also used to predict what is likely to occur in the future, and what would
10 likely occur under specified hypothetical circumstances. While an economic model can
11 be used to explore the outer limits of the “possible” this is certainly not their normal use,
12 nor is it a fair description of the way we have used models in this proceeding.

13 Apparently Mr. Larson believes that embedded cost studies are the only method
14 available for analyzing “actual” costs. This is far too narrow a view of “actual” costs. If
15 the Commission had intended to restrict the Staff and other parties to analyzing
16 embedded costs, it could have established this ground rule at the outset. Instead, it left to
17 Staff’s discretion how the carriers’ costs should be estimated, and the Staff chose to use a
18 forward looking economic costing methodology.

19 Q. Concepts like TSLRIC and Stand Alone Costs are somewhat hypothetical
20 in nature; are these concepts still consistent with the concept of actual costs?

21 A. Yes. For example, a properly developed Stand Alone cost study identifies
22 the portion of the firm’s actual costs which would be incurred even if all other services
23 were not offered. This is highly relevant to understanding the nature of the costs which

Rebuttal Testimony of
Ben Johnson PhD.

1 are actually being incurred, and determining whether a particular service is actually
2 subsidizing other services. We spent many months gathering state-specific data to
3 develop the cost studies we have provided in this proceeding. Our modeling results will
4 enable the Commission to reach decisions which are consistent with sound principles of
5 economics, and which are consistent with actual cost conditions in the state.

6 Q. Is the Staff the only party which is using a modeling approach, or do other
7 parties also use cost models?

8 A. Other parties, including SWBT, Verizon, Sprint, AT&T, Worldcom, and
9 the Office of Public Counsel have endorsed or relied upon an economic cost modeling
10 approach—either in this proceeding, or in other proceedings.

11 Q. Hasn't a similar debate been waged with regard to the FCC's UNE pricing
12 methodology?

13 A. Yes. Following the passage of the FCC's order implementing the 1996
14 Telecom Act, a number of ILECs and state public utility commissions filed motions to
15 stay the order due to disagreement with the proposed pricing methodology for UNEs.
16 Ultimately, the U.S. 8th Circuit Court of Appeals vacated the FCC's pricing rules. *Iowa*
17 *Utilities Board v. FCC*, 120 F. 3d 753 (1997)

18 Upon an appeal by the FCC to the U.S. Supreme Court, the decision was reversed
19 in part and remanded back to the 8th Circuit. See, *AT&T Corp v. Iowa Utilities Board*,
20 525 U.S. 366 (1999). On remand, the 8th Circuit vacated the use of the hypothetical
21 network standard established by the FCC. However, it reaffirmed the FCC's use of a
22 forward-looking methodology. In rejecting the most hypothetical aspects of the FCC's

1 TELRIC rules, the 8th Circuit Court of Appeals concluded the FCC was not “dealing
2 with reality”, but was “fantasizing” in its costing methodology.

3 We agree with the petitioners that basing the allowable
4 charges for the use of an ILEC's existing facilities and
5 equipment (either through interconnection or the leasing of
6 unbundled network elements) on what the costs would be if
7 the ILEC provided the most efficient technology and in the
8 most efficient configuration available today utilizing its
9 existing wire center locations violates the plain meaning of
10 the Act. It is clear from the language of the statute that
11 Congress intended the rates to be "based on the cost . . . of
12 providing the interconnection or network element," *id.*
13 (emphasis added), not on the cost some imaginary carrier
14 would incur by providing the newest, most efficient, and
15 least cost substitute for the actual item or element which
16 will be furnished by the existing ILEC pursuant to
17 Congress's mandate for sharing. Congress was dealing with
18 reality, not fantasizing about what might be. *Iowa Utilities*
19 *Board v. FCC*, 120 F. 3d 753 (1997)
20

21 In my lay reading of this decision as an economist, it seems the 8th Circuit Court
22 felt the FCC had strayed too far from the reality and was requiring network cost estimates
23 based upon extreme, unrealistic assumptions. However the Court did not take as narrow a
24 view of “actual” costs as that espoused by Mr. Larsen. Significantly, in the same ruling,
25 the 8th Circuit Court accepted the use of forward-looking costs, rather than limiting
26 consideration to embedded or historical costs.

27 We respectfully disagree with the petitioners' contention
28 that cost, as it is used in the statute, means historical cost.
29 The statute simply states that rates "shall be based on the
30 cost . . . of providing the interconnection or network
31 element." 47 U.S.C. ' 252(d)(1)(A). We conclude the term
32 "cost," as it is used in the statute, is ambiguous, and
33 Congress has not spoken directly on the meaning of the
34 word in this context. We agree with the assessment that
35 "the word 'cost' is a chameleon, capable of taking on
36 different meanings, and shades of meaning, depending on

Rebuttal Testimony of
Ben Johnson PhD.

1 the subject matter and the circumstances of each particular
2 usage. *Id.*
3

4 Reading this passage as an economist, it seems to me the 8th Circuit realized that
5 there are many different ways “actual costs” can be analyzed, and it appears that the
6 court granted regulators significant latitude in determining the appropriate standards for
7 measuring costs.

8 Q. Has the U.S. Supreme Court recently spoken on this issue?

9 A. Yes. Last year, the Supreme Court granted certiorari, and agreed to review
10 the 8th’s Circuit’s decision. *Verizon Communications Inc. v. FCC*, 531 U.S. 1124 (2001).
11 Earlier this year, the court issued its opinion. *Verizon Communications Inc. v. FCC*, No.
12 00-511 (U.S. May 13, 2002). With regard to the incumbents’ claims that “cost”, as used
13 in the 1996 Telecom Act, meant historical or embedded cost, the court stated:

14 The argument boils down to the proposition that “the cost
15 of providing the network element” can only mean, in plain
16 language and in this particular technical context, the past
17 cost to an incumbent of furnishing the specific network
18 element actually, physically, to be provided.
19

20 The incumbents have picked an uphill battle. At the most
21 basic level of common usage, “cost” has no such clear
22 implication. A merchant who is asked about “the cost of
23 providing the goods” he sells may reasonably quote their
24 current wholesale market price, not the cost of the
25 particular items he happens to have on his shelves, which
26 may have been bought at higher or lower prices.
27

28 When the reference shifts from common speech into the
29 technical realm, the incumbents still have to attack uphill.
30 To begin with, even when we have dealt with historical
31 costs as a ratesetting basis, the cases have never assumed a
32 sense of “cost” as generous as the incumbents seem to
33 claim. “Cost” as used in calculating the rate base under the
34 traditional cost-of-service method did not stand for all past
35 capital expenditures, but at most for those that were

Rebuttal Testimony of
Ben Johnson PhD.

1 prudent, while prudent investment itself could be denied
2 recovery when unexpected events rendered investment
3 useless...

4
5 There is even an argument that the Act itself forbids
6 embedded-cost methods, and while the FCC rejected this
7 absolutistic reading of the statute, First Report and Order
8 ¶704, it seems safe to say that the statutory language places
9 a heavy presumption against any method resembling the
10 traditional embedded-cost-of-service model of ratesetting.
11 At the very least, proposing an embedded cost alternative is
12 a counterintuitive way to show that selecting TELRIC was
13 unreasonable. *Id.*

14
15 With this clarification, there cannot be any question but that the Commission is
16 not required to use embedded costs in analyzing the cost of UNE's. Needless to say, this
17 proceeding is not focused on UNEs, and the requirements set forth in the 1996 Telecom
18 Act do not control the Commission's decisions in this case. However, this legal
19 distinction does not eliminate the relevance of these recent decisions. To the contrary, the
20 Commission has even broader discretion to select the costing methodology which it
21 believes is most reliable and useful in evaluating intrastate access costs. There is no basis
22 for concluding that an economic modeling approach is inappropriate, or that an
23 embedded cost approach is required.

24 Q. Witness Larsen criticizes the approach used in the Staff cost studies
25 because it "attempts to predict loop costs using the FCC Model" which generally
26 "appears to be predicting higher loop costs than the actual loop costs of the small ILECs"
27 (Larson, page 21). Would you like to respond?

28 A. Yes. I will concede that one of the most difficult problems in accurately
29 calculating the forward looking economic costs of a loop network are determining the
30 location of end users and the amount of cable needed to reach them—particularly in

Rebuttal Testimony of
Ben Johnson PhD.

1 sparsely populated rural areas. The FCC model is designed to accommodate and respond
2 to differences in customer density, economies of scale, and other factors which
3 distinguish rural areas from more urbanized areas. In this regard, the FCC model does a
4 better job than most other economic cost models. However, weaknesses remain, and
5 these are most readily apparent in very low density service territories, where accurate
6 customer location data is not readily available.

7 Perhaps the two most important drivers of per-line network costs are average loop
8 length and customer density per route mile, and both these drivers are functions of
9 customer location. Therefore, if one wants to accurately identify loop costs, it is
10 crucially important to accurately locate customers. Needless to say, the accuracy of the
11 cost estimates developed by the FCC Model will depend, in part, on the quality of the
12 customer location data used in the model. Unfortunately, the customer location data used
13 by the model is the least accurate in rural, low density portions of the state.

14 As I explained in my direct testimony, I attempted to alleviate this problem by
15 reducing the routing input from the default value of 1 to .85. This is a reasonable
16 solution to use, given that better customer location data is not available for use in this
17 proceeding. To the extent the embedded cable costs of some of the carriers serving rural
18 areas are lower than the results developed by the FCC model, this discrepancy suggests
19 that an even larger reduction in the routing variable could be justified. While further
20 improvements in this area are certainly possible, the cost estimates we have developed
21 are adequate to meet the Commission's needs in this proceeding.

Rebuttal Testimony of
Ben Johnson PhD.

1 Q. Witness Larsen also criticizes the BJA Model because it produces lower
2 traffic sensitive costs than the costs submitted by the MITG and STCG ILECs. (Larsen,
3 page 21). Is this a valid criticism?

4 A. I don't believe so. It is not clear whether Mr. Larsen is referring to traffic
5 sensitive switching costs, traffic sensitive transport costs, or the total of the two. In any
6 event, this is not a valid criticism. Mr. Larsen is comparing embedded cost levels
7 associated with electronic switching and transport equipment which was purchased many
8 years ago with forward looking costs, which reflect current prices. It is widely recognized
9 that the telecommunications industry is a declining cost industry, both because of
10 economies of scale and because the industry benefits from the same favorable trends
11 which allow color televisions, video players and computers to be constantly improved
12 and sold at ever lower prices. Since traffic sensitive costs are largely a function of the
13 cost of purchasing and maintaining digital electronic equipment, one would expect
14 forward looking costs to be lower than embedded costs in this category. In contrast, the
15 loop portion of the network is dominated by the costs of installing and maintaining
16 copper cable—areas where the benefits of declining prices and improving technology are
17 not as significant. As a result, a discrepancy between forward looking costs and
18 embedded costs could be due to the cumulative effects of general inflation, rather than
19 modeling error.

20 Q. Randy Farrar, on behalf of Sprint Communications Company, L.P., states
21 that “BJA has so significantly altered the Sprint cost model inputs that his results are not
22 representative of Sprint’s forward-looking economic cost of switched access and do not
23 comply with the FCC’s “Forward Looking Cost standard.” Is this criticism valid?

1 A. No. For one thing, his testimony fails to put into perspective the many
2 carrier-specific default inputs included with Sprint's transport model which were retained
3 in the Staff studies. The changes we have made do not diminish our ability to develop
4 accurate estimates of Sprint's actual economic costs. To the contrary, these modifications
5 allowed us to more accurately conform the studies to sound long run economic costing
6 principles, and to ensure a higher degree of consistency between carriers.

7 I would also note that the mere fact that Sprint sets forth its arguments in the
8 context of its own costs doesn't prove that its recommended inputs are more accurate or
9 appropriate than the analogous inputs used by the Staff, or those advocated by other
10 parties to this proceeding. It has been my experience that when regulatory commissions
11 investigate these sorts of inputs in complete detail, they frequently reject or modify the
12 inputs proposed by the carrier in question, substituting their own judgments, or the
13 recommendations of other parties. The mere fact that the costs are being incurred by
14 Sprint does not mean that factual claims advanced by Sprint are automatically and
15 invariably more accurate than counter claims advanced by AT&T, SWBT, or other
16 parties. In this regard, it is helpful to remember that Sprint has not compared their
17 proposed inputs with those proposed by SWBT and Verizon.

18 If Sprint wants to convince the Commission of the merits of its proposed inputs, it
19 should be willing to put forward a detailed, "apples to apples" comparison of its
20 recommendations with the analogous inputs used in the Staff studies, as well as those
21 relied upon by SWBT and Verizon. In most cases, differences in inputs are primarily a
22 function of differences in costing philosophy or methodology—not differences in the
23 individual carriers' operations. If there is merit to Sprint's advocacy efforts, they

Rebuttal Testimony of
Ben Johnson PhD.

1 should be capable of withstanding the far greater scrutiny which occurs when inputs are
2 compared across multiple data sets and multiple applications. With a sample size of one,
3 any methodology or assumption can seem plausible. When the same approach is applied
4 to other carriers and other data sets, flaws and logical inconsistencies can be revealed
5 which can go unnoticed when allegations are discussed exclusively in the context of a
6 single carrier's study.

7 Q. Witness Farrar also alleges that the TSLRIC cost methodology is the only
8 cost methodology relevant to this proceeding. (Farrar, page 9). Do you agree?

9 A. No. As I explained in my direct testimony, all four of my studies are
10 relevant to the issues in this proceeding, and will help the Commission set appropriate
11 rates for switched access services in Missouri. My TSLRIC and stand alone results can
12 be used by the Commission to set price floors and ceilings, respectively. The two
13 average or allocated cost studies are also potentially useful in evaluating the
14 reasonableness of rate levels. Furthermore, they are useful because they are conceptually
15 similar to the fully allocated embedded cost studies which have historically been relied
16 upon by the FCC and some state commissions in setting prices. In this proceeding, the
17 average cost studies are particularly useful, since they can be directly compared with the
18 embedded cost studies which have been offered by the small incumbent LECs. The staff
19 average/allocated cost studies rely upon a similar approach to that used by the small
20 incumbent LECS, except that they focus on forward looking rather than historical costs.
21 Hence, the results of these two studies can provide useful insights into the extent to
22 which forward looking costs are higher or lower than embedded costs.

Rebuttal Testimony of
Ben Johnson PhD.

1 Q. Witness Farrar states that the BJA TSLRIC Model incorrectly excludes
2 the costs of the central office processor, baseload switching software, fiber cable
3 facilities, and certain fiber optic terminal costs. Have you made an error in this regard?

4 A. No. The costs he cites were properly excluded from the TSLRIC studies,
5 because they would not be avoided if intrastate switched access service were eliminated.
6 The mere fact that certain costs may vary with output over the long run isn't a sufficient
7 basis for concluding that the entire amount of those costs belongs in a TSLRIC study. To
8 the contrary, the appropriate criteria is the extent to which the costs in question vary with
9 the presence or absence of the service in question. It is self-evident that all, or nearly all,
10 of the costs cited by Mr. Farrar would still be incurred if local and interstate switched
11 access service are provided, even if intrastate switched access service were not offered.

12 Mr. Farrar confuses the criteria which determines whether, and to what extent,
13 various costs are appropriately included in a TSLRIC study. The minimum configuration
14 of the central office processor, the baseload portion of the switching software, at least
15 one or two fiber pairs on each route, and the minimum size fiber optic terminals are all
16 needed to provide interstate access service, as well as other services. If Sprint were to
17 stop offering intrastate switched access service, it wouldn't be able to eliminate, or even
18 substantially reduce its expenditures on these items.

19 The baseload switching software provides a clear example of this phenomena.
20 This software is needed in order to operate the switch or provide any services. Even if an
21 identifiable portion of the baseload switching software were exclusively required to
22 accommodate switched access service and could somehow be dispensed with at the
23 option of the carrier (I am not aware of any such distinction being feasible), the cost of

Rebuttal Testimony of
Ben Johnson PhD.

1 this portion of the baseload software still couldn't be avoided, because it would be
2 needed in order to provide interstate switched access service. Costs which do not vary
3 with respect to the presence or absence of the service in question should not be included
4 in a TSLRIC study.

5 The TSLRIC of a service (or group of services) is equal to the firm's total cost of
6 producing all its services including the service (or group of services) in question, minus
7 the firm's total cost of producing all its services except the service (or group of services)
8 in question. Thus, the critical question is the extent to which the costs in question would
9 be avoided if the entire volume of output of intrastate switched access service were
10 eliminated, while all other services remain unchanged. Notwithstanding his vague claims
11 that fiber cable is "variable" in the long run, Mr. Farrar hasn't pointed to a single
12 example of a fiber optic route which could be eliminated if intrastate switched access
13 service were not offered. Since the cost of purchasing and installing a 2 pair fiber cable is
14 nearly identical to the cost of a 6 or 12 pair cable, it is reasonable to treat the entire cost
15 of the cable as one which would not be avoidable if intrastate switched access service
16 were eliminated.

17 Bear in mind that a single pair of fibers is adequate to accommodate all of the
18 local, interstate and intrastate traffic. A carrier cannot reduce its fiber costs below the
19 level which would be incurred if it relied upon a single pair of fibers (plus backup fibers)
20 on each route. Eliminating intrastate switched access service won't enable a carrier to
21 eliminate the cost of a minimum sized cable. To the contrary, the cost of a single pair of
22 fibers (plus backup) represents an irreducible minimum cost—which cannot be avoided by
23 eliminating one of the services which use the cable. Since the costs in question do not

Rebuttal Testimony of
Ben Johnson PhD.

1 increase or decrease as a result of the decision to provide or not provide switched access
2 service, these costs are appropriately excluded from a TSLRIC study.

3 Q. You seem to be relying upon a conceptual distinction between avoidable
4 and unavoidable costs in defending your decision to exclude fiber costs from your
5 TSLRIC studies. Is this distinction unique to the TSLRIC approach, or is it valid on a
6 broader basis, with respect to incremental or marginal cost approaches more generally?

7 A. This is a general principle which applies to any type of incremental cost
8 study which is intended to be consistent with standard economic costing principles. For
9 instance, SWBT witness, David Barch cites to the definition of “Long run economic
10 cost” contained in Section 386.020 of the Missouri Statutes. The focus on avoidable costs
11 is implicit in this definition, and from this portion of the language which he cites:

12 “Long-run incremental cost,” [is] the change in total costs
13 of the company producing an increment of output...
14 *excluding any costs that, in the long run, are not brought*
15 *into existence as a direct result of the increment of output.*
16 [emphasis added] *Missouri Revised Statutes*, Section
17 386.020 (17).

18 This is essentially the same criteria we used in distinguishing between our average and
19 TSLRIC studies. The average cost studies include an allocated portion of shared costs
20 (for items like baseload software, fiber optic cable, and subscriber loops), if these costs
21 are necessary to provide the service in question, even if the costs are not brought into
22 existence by the decision to offer intrastate switched access service. In contrast, in the
23 TSLRIC studies, these types of costs are excluded because they are not incremental to the
24 service in question—these types of shared costs are not “brought into existence as a direct
25 result” of intrastate switched access service. To the contrary, these costs would still be

Rebuttal Testimony of
Ben Johnson PhD.

1 necessary in order to provide local and interstate switched access service, even if the
2 increment of output being studied (intrastate switched access service) did not exist.

3 Q. On page 18 lines 17-22 Witness Farrar discusses the BJA assumptions for
4 utilization factors and asserts that the factors used in the TSLRIC study are not “based on
5 reasonably accurate fill factors”. Why are your assumptions reasonable for purposes of
6 this proceeding?

7 A. A comparison of our fill factors to Sprint’s fill factors shows that, overall,
8 they are not dramatically different. In some instances our inputs are higher but in other
9 instances ours are lower. In any event, I believe our approach is superior to that of Sprint
10 because it is based upon economically efficient utilization levels—rather than the
11 utilization levels which happened to exist on particular network segments at a certain
12 point in time. Sprint’s methodology is essentially an embedded, backward looking
13 approach which is not consistent with the approach used in other carriers’ models, and is
14 not consistent with long run costing principles. Sprint’s proposed fill factors are clearly
15 flawed, because they include some very low fill factors which correspond to inefficiently
16 high levels of spare capacity. For example, in the study provided by Sprint to Staff, we
17 found that on some routes Sprint was using fiber fill factors which are less than 10%.
18 This simply isn’t consistent with a true long run planning horizon, in which the firm will
19 optimize its capacity to closely match its output. In a long run cost study, the amount of
20 capacity should more closely match the volume of output reflected in the study.

21 Q. Sprint witness Farrar claims that Sprint’s depreciation lives, maintenance
22 factors and cost of capital are more appropriate than the ones used in the Staff cost
23 studies. Do you agree?

Rebuttal Testimony of
Ben Johnson PhD.

1 A. No. As I explained in my direct testimony, we largely relied upon the
2 FCC's default depreciation lives, with certain modifications to those applicable to copper
3 cable and switching facilities. Farrar claims that my study uses depreciation lives which
4 are generally longer than those used by Sprint. To the extent this is true, it is because
5 Sprint is proposing lives which are unduly short. In this regard, it is worth noting that
6 incumbent carriers like Sprint made similar arguments to the FCC, and these claims were
7 rejected.

8 I would also note that with regard to the specific accounts where I relied upon my
9 own judgment, the differences aren't very substantial. For instance, for buried copper
10 cable I assumed an average depreciation life of 17 years, while Sprint assumed ** __**
11 years. Similarly, for digital switching I assumed 12 years while Sprint assumed ** __**
12 years.

13 Q. What about maintenance factors?

14 A. Mr. Farrar says I use "maintenance rates that are generally higher than
15 those used by Sprint" and that "they are based on 1996 embedded expenses". As
16 explained in my direct testimony, I relied upon the default maintenance inputs which
17 were developed by the FCC after reviewing extensive evidence and comments submitted
18 by many parties, including Sprint. These inputs are only partially based upon the 1996
19 embedded data; they were derived using expense-to-investment ratios (after application
20 of current to book ratios) which, when applied to the model-derived forward-looking
21 investment balances, result in forward-looking plant-specific operations expense
22 estimates. In this area, as in others, I think it is interesting to note that Mr. Farrar made no
23 effort to determine how his methodology or proposed inputs compare to those relied

Rebuttal Testimony of
Ben Johnson PhD.

1 upon by other incumbent LECs. Since he hasn't gone to the effort of applying his
2 approach to any other data, it is difficult to judge whether his methodology and proposed
3 inputs have any validity, or what the impact would be if his approach were used in the
4 cost studies for the other carriers. As I stressed in my direct testimony, the ability to
5 develop cost estimates on a uniform, consistent, basis is imperative in this investigation.
6 Without a reasonable degree of consistency and uniformity, it would be impossible for
7 the Commission to know whether differences in the estimated costs for various carriers
8 are the result of differences in the underlying cost conditions facing those carriers (e.g.
9 due to differences in buying power or management practices) or due to differences in
10 methodology or assumptions.

11 Q. Mr. Farrar argues that your cost of capital inputs are not Sprint specific.
12 How do you respond?

13 A. In this area, as elsewhere, Mr. Farrar makes no effort to apply his
14 recommended approach to any carriers other than Sprint. Thus, even if the Commission
15 were inclined to give some weight to his suggestions, it hasn't been provided the
16 information necessary to determine the impact of applying his approach on a uniform
17 basis to other carriers. Second, Mr. Farrar fails to even identify whether he believes
18 Sprint's costs are higher or lower than those of SWBT and other carriers. Without
19 knowing this, it is impossible to judge whether there is any merit to his criticism. As I
20 explained in my direct testimony, I used somewhat higher cost of capital inputs for the
21 large ILECs than for the small ILECs. While I did not distinguish amongst the large
22 ILECs, I don't necessarily object to the idea of doing this. However, consistency remains
23 important. The cost of capital applied to Sprint should be fully consistent with the cost of

Rebuttal Testimony of
Ben Johnson PhD.

1 capital applied to SWBT. Any differences in the inputs should be based upon carrier-
2 specific differences in the actual circumstances facing these carriers—not differences in
3 methodology or philosophy.

4 The same approach should be applied to Sprint, SWBT, Verizon and the other
5 carriers. Otherwise, the Commission will be confronted with inconsistent studies, and it
6 won't be able to judge whether differences in results are due to differences in the
7 circumstances of the various carriers, or merely due to differences in the philosophy or
8 methodology used in developing the respective studies.

9 Q. Finally, Witness Farrar is critical of the annual charge factor used in the
10 BJA TSLRIC study because it “fails to include a reasonable allocation of joint and shared
11 costs” (Farrar, page 25). Is this criticism valid?

12 A. No. As I explained in my direct testimony, my initial draft studies did not
13 include corporate overheads and other common costs. However, I included an allowance
14 for common costs in the final cost studies which were submitted to the Commission for
15 use in this proceeding.

16 Q. Does this complete your rebuttal testimony, which was filed on August 1,
17 2002?

18 A. Yes, it does.
19
20

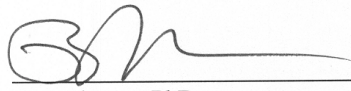
**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

In the Matter of an Investigation of the Actual)
Costs Incurred in Providing Exchange Access)
Service and the Access Rates to be Charged by) Case No. TR-2001-65
Competitive Local Exchange Telecommunications)
Companies in the State of Missouri.)

AFFIDAVIT OF BEN JOHNSON, PhD.

STATE OF MISSOURI)
)
COUNTY OF COLE)

Ben Johnson, PhD., of lawful age, on his oath states: that he has participated in the preparation of the foregoing written testimony in question and answer form, consisting of 17 pages of testimony to be presented in the above case, that the answers in the attached written testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true to the best of his knowledge and belief.

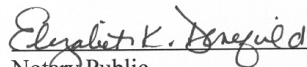


Ben Johnson, PhD.

Subscribed and sworn to before me this 31st day of July, 2002.



Elizabeth K. Denefield
MY COMMISSION # CC871523 EXPIRES
September 14, 2003
BONDED THRU TROY FAIN INSURANCE, INC.



Notary Public

My commission expires September 14, 2003.