

REBUTTAL TESTIMONY OF
BRIAN F. PITKIN
ON BEHALF OF
WWC License L.L.C.
October 17, 2003

BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

**IN THE MATTER OF THE)
PETITION OF WWC HOLDING)
CO., INC. FOR ARBITRATION OF) DOCKET NO.: 03-2403-02
AN INTERCONNECTION)
AGREEMENT)**

REBUTTAL TESTIMONY OF

BRIAN F. PITKIN

ON BEHALF OF

WESTERN WIRELESS L. L. C

OCTOBER 17, 2003

CONFIDENTIAL

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1 **I. INTRODUCTION**

2 **A. Background**

3 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

4 A. My name is Brian F. Pitkin. I am President of InterLink, Inc., with offices located in
5 Alexandria, Virginia.

6 **Q. PLEASE DESCRIBE YOUR BACKGROUND.**

7 A. I received a Bachelor of Science degree in Commerce, with concentrations in both
8 Finance and Management Information Systems, from the McIntire School of Commerce
9 at the University of Virginia in 1993.

10 After graduation from the University of Virginia, I joined Peterson Consulting, L.P.,
11 where I was involved in developing and analyzing large databases and performing
12 economic analyses. In 1994 I joined Klick, Kent & Allen, Inc. (which was subsequently
13 acquired by FTI Consulting). Since that time, I have been involved in cost analyses for
14 the telecommunications, railroad, pipeline and postal industries. Many of the analyses I
15 have worked on have been submitted in regulatory and court proceedings. Most recently,
16 I have formed InterLink, Inc., a financial consulting firm specializing in infrastructure
17 industries.

18 During the past six years, I have had extensive experience with the cost models and
19 underlying databases that have been submitted in proceedings arising out of the
20 Telecommunications Act of 1996 ("1996 Act"). In this time, I have become familiar with
21 virtually every major forward-looking cost model submitted in state and federal

1 proceedings for estimating costs of (1) unbundled network elements ("UNEs") for
2 interconnection, (2) basic local service for universal service fund ("USF") requirements,
3 and (3) access services.

4 Specifically, I have reviewed the Benchmark Cost Model ("BCM"), the Benchmark Cost
5 Proxy Model ("BCPM"), the Hatfield Model (now the Hatfield Associates, Inc or "HAI"
6 Model), the Integrated Cost Model ("ICM"), various BellSouth models (including its loop
7 model), the Hybrid Cost Proxy Model ("HCPM"), and the Federal Communications
8 Commission's ("FCC's") Synthesis Model adopted in the FCC's Platform Order.¹ In
9 addition, I have reviewed numerous cost studies submitted by both rural and non-rural
10 incumbent local exchange carriers ("ILECs") as part of regulatory proceedings and
11 commercial litigation over a number of years.

12 Exhibit BFP-1 to this testimony provides further detail concerning my qualifications and
13 experience.

14 **B. Purpose And Organization Of Testimony**

15 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

16 A. I have been asked by WWC License L.L.C. ("Western Wireless") to review and comment
17 on the cost study filed by Gunnison Telephone Company ("Gunnison"), Manti Telephone
18 Company ("Manti"), South Central Utah Telephone Association ("SCUTA"), Uintah
19 Basin Telecommunications Association ("UBTA"), and UBET Telecommunications, Inc.

¹ CC Docket Nos. 96-45, 97-160, FCC 98-279, *Fifth Report and Order, Federal Communications Commission ("Platform Order")*, October 22, 1998.

1 (“UBET”) as sponsored by Mr. Chad Duval in his September 5, 2003 direct testimony
2 (“*Duval Direct*”). Hereafter, I refer to the above collective group of companies as the
3 “Utah LECs.” In addition to my testimony, Mr. Ron Williams is filing rebuttal testimony
4 concurrent with my testimony (“*Williams Rebuttal*”).

5 **Q. ARE YOU SPONSORING A COST STUDY IN THIS PROCEEDING?**

6 A. Not at this point in time. To-date, the Utah LECs have failed to provide the full version
7 of the model relied on to support their testimony. Moreover, the Utah LECs have
8 password protected the Microsoft Excel output files that they claim support the rates they
9 propose in this proceeding. While I intend to conduct a thorough review of the model
10 and adjustments propounded in Mr. Duval’s testimony, I have not yet been able to
11 complete this analysis. It is important to note that the underlying cost model and model
12 outputs are critical to a full review of the cost studies propounded by the Utah LECs in
13 this proceeding.

14 **Q. HOW IS YOUR TESTIMONY ORGANIZED?**

15 A. In Section I, I provide an introduction of my testimony and summarize my findings.
16 Section II contains an overview of the issues in this proceeding and the division of
17 responsibility between Mr. Williams and myself. Section III quantifies the obvious errors
18 in the Utah LECs’ proposed rates but, as described, I have not been able to conduct a
19 thorough analysis or provide any restatements of the Utah LECs’ cost studies. Finally,
20 Section IV explains my position on the proposed rates given the time and data available
21 to me as of this filing.
22

1 **C. Summary Of Findings**

2 **Q. PLEASE SUMMARIZE YOUR TESTIMONY ON THE APPROPRIATE RATES**
3 **AT ISSUE IN THIS PROCEEDING.**

4 A. My testimony details only the most obvious errors in the cost studies and resulting rates
5 propounded by the Utah LECs in this proceeding because insufficient information has
6 been provided. However, my testimony does describe some very obvious errors that
7 result in significant overstatements in the resulting interconnection rates. Further, my
8 testimony illustrates that the Utah LECs have undermined the forward-looking cost
9 model by forcing the model to produce their embedded costs.

10 At a high level, my testimony shows that:

- 11 • The Utah LECs inappropriately treat switching costs as usage sensitive, in
12 violation of cost causation principles and both the FCC’s and this
13 Commission’s prior determinations;
- 14 • Even if switching costs were determined to be usage-sensitive, which they are
15 not, the Utah LECs manipulate the HAI Model to arrive at embedded
16 switching costs, thereby directly violating TELRIC principles;
- 17 • The Utah LECs’ structure sharing assumptions are absurd;
- 18 • The Utah LECs understate demand;
- 19 • The Utah LECs have used a “pick and choose” methodology for developing
20 its buried cable placement costs;
- 21 • The Utah LECs have attempted to replicate the embedded switching expense
22 rather than using forward-looking expense estimates;
- 23 • The Utah LECs have attempted to replicate its network operations costs and,
24 as a result, have ended up overstating the portion of network operations
25 expenses associated with interconnection;
- 26 • The Utah LECs have used an outdated version of the HAI Model that is
27 known to overstate costs.

1 During my continued review, and once the Utah LECs produce all backup models, files
2 and workpapers, I may find other errors that need to be adjusted in the studies submitted
3 by the Utah LECs.

4 **Q. PLEASE IDENTIFY WHY YOUR ANALYSIS HAS BEEN HINDERED BY THE**
5 **UTAH LECs' FAILURE TO PROVIDE THE COST STUDIES RELIED ON TO**
6 **DEVELOP RATES IN THIS PROCEEDING.**

7 A. The Utah LECs have filed rates in this proceeding without the backup cost model relied
8 on to develop those rates. The Utah LECs have further hindered a review of their studies
9 by password protection, or locking, the HAI Model expense outputs that calculate the
10 final rates.

11 This is not an issue that was raised too late for the Utah LECs to provide responses. In
12 Western Wireless' first set of discovery requests, dated August 1, 2003, Western
13 Wireless asked the Utah LECs to "Provide a copy of any cost study used by each Utah
14 ILEC to support its proposed rates in the Interconnection Agreement." In the Utah
15 LECs' first set of responses, they declared that "A copy of the output file from the HAI
16 Model 5.0a (Exhibit 11) utilized in the development of the proposed rates will be
17 provided in electronic format upon entry of a protective order." Further, the Utah LECs
18 declared that "Should Western Wireless desire to further review the model utilized, [Utah
19 LEC] invites Western Wireless and its representatives to review the model at the offices
20 of GVNW Consulting, Inc. at 2270 La Montana Way, Colorado Springs, Colorado,
21 80918."²

² These responses came from all companies other than Emery, which responded that "Emery is still completing its cost study. Such cost study will be provided to Western Wireless in electronic format upon completion but not later than September 5, 2003. Nevertheless, it will

1 First, a copy of the model outputs is not responsive to the request to provide the cost
2 study and the Utah ILECs' insistence that a visit to the offices of its consultants is
3 unreasonable. Further, in their supplemental responses to this request, the Utah ILECs
4 state that

5 The ILECs are unable to provide a copy of the HAI Model 5.0a, as it is their
6 understanding that this is proprietary, licensed software. GVNW Consulting, Inc.
7 acquired its copy of the model from the following contact at the FCC, for a \$25 licensing
8 fee, and would encourage Western Wireless to do the same.

9 Again, in propounding a cost study in a regulatory proceeding, the Utah ILECs are
10 required to provide the cost study used as a basis for justifying those rates. The Utah
11 ILECs have failed to provide access to such information.

12 To complicate matters, the Utah ILECs stated that they would provide "A copy of the
13 output file from the HAI Model 5.0a." However, when providing this file, the Utah
14 ILECs password protected, or locked the file, thereby preventing any analysis of this
15 limited portion of its cost study. In a letter from Nathan Glazier of Western Wireless on
16 September 11, 2003, Western Wireless requested

17 In most instances, the information requested was not provided. The fact that certain
18 information may be embedded and unidentified as part of the cost model or other exhibits
19 is not a sufficient response to this discovery request. The production of this information
20 is necessary to complete an adequate analysis of the Utah ILECs' network. The
21 information requested is directly related to the traffic capacity of the network and its
22 ability to efficiently and economically deliver traffic across the network. Without the
23 requested information, neither Western Wireless nor the arbitrator will be able to
24 sufficiently examine the network and its costs to determine an appropriate reciprocal
25 compensation rate for terminating and transiting traffic on the network. Furthermore, the
26 electronic spreadsheets provided by the Utah ILECs were locked, meaning Western
27 Wireless can not look at the individual fields and data to determine how the information,
28 background inputs and calculations relate to other data on the spreadsheet. Without the
29 password to unlock the spreadsheets, Western Wireless can not manipulate the data as
30 part of its analysis. Please provide the password to unlock the spreadsheets.

provide such information as it presently has available by electronic means upon entry of a protective order."

1 I still have not received the password to unlock the spreadsheets and my attempts to
2 review, and importantly, perform sensitivity analyses on the cost studies have left me in
3 the position to having to respond to the rates proposed by the Utah LECs without a full
4 review of the underlying methodology.

5 **Q. DOES THE POSITION TAKEN BY THE UTAH LECs VIOLATE THE FCC’S**
6 **RULES FOR TELRIC PROCEEDINGS?**

7 A. Yes. The FCC’s rules require, in 47 C.F.R. § 51.509, that

8 (e) Cost study requirements. An incumbent LEC must prove to the state commission that
9 the rates for each element it offers do not exceed the forward-looking economic cost per
10 unit of providing the element, using a cost study that complies with the methodology set
11 forth in this section and § 51.511 of this part.³

12 The FCC further clarified that “Given the likely asymmetry of information regarding
13 network costs, we conclude that, in the arbitration process, incumbent LECs shall have
14 the burden to prove the specific nature and magnitude of these forward-looking common
15 costs.”⁴

16 The FCC later affirmed that “The cost study or model and all underlying data, formulae,
17 computations, and software associated with the model must be available to all interested
18 parties for review and comment.”⁵

³ *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996 (CC Docket No. 96-98) and Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers (CC Docket No. 95-185)*, First Report and Order, August 8, 1996, Appendix B – Final Rules. (“*Local Competition Order*”) Relevant excerpts of this order are included as Exhibit BFP-2.

⁴ *Local Competition Order*, ¶ 695.

⁵ *In the Matter of Federal-State Joint Board on Universal Service (CC Docket No. 96-45)*, Report and Order, May 7, 1997, ¶ 250. (“*Universal Service Order*”)

1 Most recently, the in the recent Virginia Arbitration proceeding before the FCC, the FCC
2 affirmed that these very rules apply to TELRIC proceedings:

3 Subsequently, in the universal service proceeding, the Commission provided additional
4 guidance regarding the proper criteria for forward-looking cost methodologies. In
5 particular, the Commission delineated ten criteria that should be used in making forward-
6 looking economic cost determinations. Some of these criteria offer specific guidance on
7 developing forward-looking cost models. Notably, a cost model “must include the
8 capability to examine and modify the critical assumptions and engineering principles.”
9 Underlying data must be verifiable, network design assumptions must be reasonable, and
10 model outputs must be plausible. All data, formulas, and other aspects of the models
11 must be made available to other parties for their evaluation. In other words, a cost model
12 must be transparent and verifiable. *(footnotes omitted)*⁶

13 There can simply be no question that the burden is on the Utah LECs to provide the cost
14 studies (in an open and verifiable manner) relied on to form the basis of the rates they
15 propose in this proceeding. However, the Utah LECs have failed to do so. I urge the
16 Commission to require the Utah LECs to provide a full, unprotected version of the model
17 they rely on to develop interconnection rates. Only after the cost studies have been
18 submitted will I be able to fully review the reasonableness of the cost study they
19 propound and determine what adjustments are required.

20 **II. AREAS OF RESPONSIBILITY AND OVERVIEW**

21 **Q. WHAT ISSUES ARE YOU COVERING AS PART OF YOUR TESTIMONY?**

⁶ *In the Matter of In the Matter of Petition of WorldCom, Inc. Pursuant to Section 252(e)(5) of the Communications Act for Preemption of the Jurisdiction of the Virginia State Corporation Commission Regarding Interconnection Disputes with Verizon Virginia Inc., and for Expedited Arbitration (CC Docket No. 00-218) In the Matter of Petition of AT&T Communications of Virginia Inc., Pursuant to Section 252(e)(5) of the Communications Act for Preemption of the Jurisdiction of the Virginia Corporation Commission Regarding Interconnection Disputes With Verizon Virginia Inc. CC Docket No. 00-218 (CC Docket No. 00-251), Memorandum Opinion and Order, August 28, 2003, ¶ 38. (FCC’s Virginia Arbitration Order) Relevant excerpts of this order are included as Exhibit BFP-3.*

1 A. My testimony focuses on the rates that should be adopted for the transport and
2 termination of intraMTA traffic consistent with 47 U.S.C. ' 252(d)(2) and FCC Rule
3 51.705. In this respect, my testimony primarily corresponds to the testimony of Mr.
4 Duval filed on behalf of the Utah LECs.

5 **Q. WHAT COSTING METHODOLOGY DOES MR. DUVAL PROPOSE BE USED**
6 **TO SET TRANSPORT AND TERMINATION RATES?**

7 A. Mr. Duval proposes use of the HAI Model, version 5.0a for the calculation of end office
8 and tandem interconnection rates for the Utah LECs. He started with the default version
9 of the model, complete with default inputs, and attempted to adjust the inputs to reflect
10 the costs of the Utah LECs. Thus, my testimony focuses on a discussion of the errors in
11 Mr. Duval's analysis and to the HAI Model, version 5.0a.

12 While I have been precluded from restating Mr. Duval's analysis at this point in time, I
13 am able to demonstrate that the proposed rates are significantly overstated and were made
14 with the stated intent of replicating the Utah LECs' embedded costs.

15 Mr. Williams' accompanying testimony covers the policy issues related to this
16 proceeding. Mr. Williams also identifies that I should develop two separate
17 interconnection rates, one for interconnection at the end office and the other for
18 interconnection at the tandem.

19 **Q. ARE YOU PROVIDING RESTATED RATES?**

20 A. No. I identify the numerous flaws in Mr. Duval's calculations and show the effects of
21 only those errors that I am able to quantify, but I identify only what the maximum rate
22 could possibly be.

1 **III. QUANTIFICATION OF OBVIOUS ERRORS**

2 **A. Switching Costs are Not Usage Sensitive**

3 ***1. Switch Investments are Port Driven, Not Usage Driven***

4 **Q. IS IT TRUE THAT SWITCH COSTS ARE DRIVEN BY BOTH PORT**
5 **REQUIREMENTS AND BY PROCESSOR REQUIREMENTS?**

6 A. No. Today, technology improvements have resulted in switch costs that are driven solely
7 by port requirements. Specifically, switching costs are no longer usage-sensitive and
8 should therefore not be recovered on a usage-basis. The FCC's rules require that costs
9 must be attributed on cost causation principles:

10 Any function necessary to produce a network element must have an
11 associated cost. The study must explain with specificity why and how
12 specific functions are necessary to provide network elements and how the
13 associated costs were developed. Only those costs that are incurred in the
14 provision of the network elements in the long run shall be directly
15 attributable to those elements. Costs must be attributed on a cost-causative
16 basis. Costs are causally-related to the network element being provided if
17 the costs are incurred as a direct result of providing the network elements,
18 or can be avoided, in the long run, when the company ceases to provide
19 them.⁷

20 Therefore, it is only possible to satisfy the FCC's requirement -- that rates must be set in a
21 manner that reflects cost causation to the maximum extent possible -- by recovering
22 switching costs on a flat-rated basis.

23 **Q. WHAT EVIDENCE EXISTS THAT SWITCH COSTS ARE NOT USAGE**
24 **RELATED?**

25 A. First, the issue of how switches are purchased has been investigated and reviewed for
26 years in the context of UNE proceedings. The simple fact is that switches are purchased

⁷ *Local Competition Order*, ¶ 691.

1 based on the number of lines served and do not vary based on traffic parameters. Thus,
2 these contracts⁸ do not identify any usage-sensitive component of switch prices. Under
3 these circumstances, the cost causer is either the entire switch or the number of lines to be
4 served by the switch, and no incremental cost associated with usage is incurred. The cost
5 of the switch is therefore caused by the decision to offer service, not by the amount of
6 usage the service generates.

7 Taking this argument to its natural conclusion, the Utah LECs will need to recover the
8 cost of the switch from all users even if none of those users make a single call.

9 Moreover, if every customer in a Utah LEC network doubles, or even triples their usage,
10 this has no impact on the cost of the switches employed in the forward-looking network.

11

⁸ To date, the ILECs have refused to provide any of their actual switch purchase or contract data. *See*, Utah LECs response to Western Wireless request 42.

1 **2. Changes in Switch Costs Over Time**

2 **Q. PLEASE DESCRIBE HOW SWITCH COSTS ARE INCURRED IN MORE**
3 **DETAIL.**

4 A. A large percentage of a switch's cost is associated with the "getting started" cost of the
5 switch. In other words, a large portion of the total switch investment is based on
6 purchasing the switch -- despite the number of ports or the processor capacity provided as
7 part of the basic switch. Thus, this portion of the switch investment is driven by the
8 decision to purchase the switch to serve a customer -- clearly not driven by any usage
9 characteristic.

10 Second, developments in switch technologies have increased usage capacity to the extent
11 that switches no longer exhaust based on usage. Instead, today's switches exhaust by
12 exceeding the number of ports available on the switch. When a switch exhausts because
13 the maximum port capacity is reached, then a second "getting started" cost would be
14 incurred because a second switch would have to be deployed in the wire center.

15 Thus, the true cost causer of the significant "getting started" costs is the ports that
16 exhausted the first switch, and accordingly, these getting started costs should be assigned
17 to the port.

18 **Q. CAN YOU PROVIDE ANY SUPPORT FOR THE CHANGE THAT HAS**
19 **OCCURRED OVER TIME?**

20 A. Yes. All models must make an assumption about the amount of switch investment to
21 apportion to the ports and to the processor. The default assumptions in these models have
22 also been changing over time. For example, in the mid to late 1990s, the HAI Model
23 (version 5.0a) used the default assumption that 30% of the switch investment was port

1 driven and 70% of the switch investment was processor driven. In the late 1990s or early
2 2000s, this assumption had flipped and the original HAI Model (version 5.2) assumption
3 was that 60% of the switch investment was port driven with only 40% being processor
4 driven.⁹ Now, the HAI Model (version 5.3) assumes that 100% of the switch investments
5 are port driven with no allocation to a usage-sensitive component.

6 **3. Agreement By Other ILECs**

7 **Q. HAVE ANY OTHER ILECS AGREED THAT SWITCH COSTS ARE NOT**
8 **USAGE SENSITIVE?**

9 A. Yes. Qwest witness Paul McDaniel stated the following in a filing at the Colorado Public
10 Utilities Commission in October, 2002:

11 The nature of switching costs has changed significantly over time with
12 advances in digital technology. Switching costs today are more line-
13 driven than traffic-sensitive. It is not unreasonable to model switching
14 costs now as depending entirely on the number of line-side ports and the
15 number of trunk-side ports. Switching costs in such a model can be
16 reasonably recovered entirely as fixed monthly charges.¹⁰

17 Thus, even ILECs now recognize that switch costs should be recovered on a flat-rated
18 basis.

⁹ However, later versions of the HAI Model version 5.2 (as filed here in Utah) have a default assumption that all switch costs are port driven

¹⁰ Direct Testimony of Paul R. McDaniel, "In The Matter Of The Joint Application For Approval Of A Plan To Restructure Regulated Intrastate Switched Access Rates And Petition For A Commission Order Declaring The Plan To Be Applicable To All Local Exchange Carriers In Colorado," October 4, 2002, p 19. Relevant excerpts of this testimony are included as Exhibit BFP-4.

1 **4. Approval by Regulatory Agencies**

2 **Q. HAVE ANY REGULATORY BODIES ADOPTED A RATE STRUCTURE THAT**
3 **RECOVERS SWITCH COSTS ENTIRELY ON A PER PORT BASIS?**

4 A. Yes. The Illinois Commerce Commission issued a July, 2002 order that strongly
5 endorsed this thinking. Specifically, the Illinois Commerce Commission concluded:

6 12. The Commission rejects Ameritech' proposed ULS rate structure. In the
7 TELRIC Order, the Commission concluded that switching costs were incurred
8 primarily on a per-line basis because Ameritech ordered switches that were
9 intended to support a discrete number of lines. Ameritech has offered no
10 evidence or argument in this docket that would lead us to depart from that
11 conclusion. The only new matter that Ameritech has raised is that the switch
12 matrix is a shared facility that contains a finite limit on the amount of Centrum
13 Call Seconds ("CCS") that it can transport from the line side to the trunk side
14 of the switch and that in a few instances it must upgrade switches to enhance
15 the CCS throughput capacity. This does nothing to dissuade us from our prior
16 conclusion that switch costs are driven primarily by per-line considerations at
17 the time of manufacture and that switch prices are driven primarily by per-line
18 considerations as well. This is not to say that Ameritech is not entitled to
19 recover costs it reasonably anticipates and proves it will incur in expanding
20 CCS capacity by, for example, including reasonable CCS expansion cost
21 projections in a cost study. Ameritech has not taken that path, however,
22 relying instead on attempting to convince the Commission that it erred in
23 reaching its prior determination.

24 * * *

25 14. Our TELRIC Order similarly recognized that Ameritech might incur some
26 usage costs when a switch is activated. We therefore provided Ameritech an
27 opportunity to "delineate usage costs incurred whenever a portion of the
28 switch is activated, and Ameritech should be allowed to recover this
29 incremental cost from the CLEC, either as a portion of the per-line charge, or
30 through a small charge per minute of use" TELRIC Order, p. 59. Although
31 Ameritech was provided this opportunity, it did not even attempt to
32 demonstrate what, if any, cost it incurs to activate a switch. Instead,
33 Ameritech chose to ignore the direction of the Commission to file a ULS
34 [unbundled local switching] cost study that established prices primarily on the
35 flat-rate terms of its vendor contracts.¹¹

¹¹ Illinois Commerce Commission, Case 00-0700, Illinois Commerce Commission On Its Own Motion -vs- Illinois Bell Telephone Company, Investigation into Tariff Providing Unbundled

1 **Q. IS THE ILLINOIS COMMERCE COMMISSION DECISION CONSISTENT**
2 **WITH THE FCC PRICING RULES?**

3 A. Yes. The FCC confirms, in 47 C.F.R. § 51.509, that local switching costs may be
4 recovered entirely through flat-rated charges. Based on this conclusion by the FCC, the
5 Illinois Commerce Commission is well within its bounds to develop a switching charge
6 that is 100% flat-rated.

7 **§ 51.507 General rate structure standard.**

8 (a) Element rates shall be structured consistently with the manner
9 in which the costs of providing the elements are incurred.

10 (b) The costs of dedicated facilities shall be recovered through
11 flat-rated charges.

12 (c) The costs of shared facilities shall be recovered in a manner
13 that efficiently apportions costs among users. Costs of shared facilities
14 may be apportioned either through usage-sensitive charges or capacity-
15 based flat-rated charges, if the state commission finds that such rates
16 reasonably reflect the costs imposed by the various users.¹²

17 The FCC's recent order in the Virginia arbitration confirms this fact.

18 **Q. HOW DID THE FCC RESOLVE THE SWITCHING RATE STRUCTURE ISSUE**
19 **IN THE VIRGINIA ARBITRATION?**

20 A. As an introduction to the appropriate rate structure for switching, before presenting the
21 parties' arguments on the issue, the FCC reaffirms its pricing rules:

22 The Commission's general rate structure rules specify that UNE rates be structured
23 consistently with the manner in which the costs of providing them are incurred. In other
24 words, the basis on which the element is sold to the competitive LEC should reflect the
25 basis on which the cost is incurred by the incumbent LEC. If, for example, the
26 incumbent LEC were to pay the switch manufacturer a per line fee for some of the switch
27 hardware or software, then the incumbent LEC should recover these switch costs from
28 the competitive LEC on the same basis. If the incumbent LEC were to recover these

Local Switching with Shared Transport, July 10, 2002, pages 4-6. Relevant excerpts of this Order are included as Exhibit BFP-5.

¹² *Local Competition Order*, Appendix B – Final Rules.

1 costs on a per MOU basis, then this would provide the competitive LEC's subscribers
2 with an uneconomic incentive to reduce usage of this switch hardware or software.

3 The Commission's general rate structure rules also specify that the costs of shared
4 facilities should be recovered in a manner that efficiently apportions them among users,
5 either through usage-sensitive charges or capacity-based flat-rated charges. That is, these
6 costs should be allocated among subscribers on the basis of their causal responsibilities.
7 The Commission's specific rate structure rule for local switching specifies that costs for
8 this element be recovered through a combination of a flat-rated charge for line ports and
9 one or more flat-rated or per MOU charges for the switching matrix and trunk ports, but
10 it does not specify a particular combination or means for determining the appropriate
11 combination.¹³ (*footnotes omitted*)

12 The FCC devotes almost seven pages to the issue of switch cost recovery. I encourage
13 the commission to read the Virginia arbitration order in full, included as Exhibit BFP-6
14 but the more relevant passages from paragraphs 463-465 are included below. With
15 regards to getting started costs:

16 We find here that the "getting started" costs of the switch should be recovered on a per
17 line port basis. "Getting started" costs are incurred for capacity that is shared among
18 subscribers. Verizon incurs these costs to be ready to provide service upon demand.
19 Given the record evidence that modern switches typically have large amounts of excess
20 central processor and memory capacity, the usage by any one subscriber or group of
21 subscribers is not expected to press so hard on processor or memory capacity at any one
22 time as to cause call blockage, or a need for additional capacity to avoid such blockage
23 ... Principles of cost causation, therefore, support a per line port cost recovery approach
24 because, more than any other approach, it spreads getting started costs to carriers in a
25 manner that treats equally all subscribers served by a switch.

26 ***

27 The incumbent LEC's central processor and memory costs do not vary with respect to
28 whether a subscriber connected to its switch is a high or low volume user, a residential or
29 business user, or a peak-period or off-peak-period user.

30 ***

31 A per MOU price for the central processor and memory, in contrast to a per line port
32 price, would not recover these costs on a competitively neutral basis ... Principles of cost
33 causation do not, therefore, support a per MOU price.¹⁴ (*footnotes omitted*)

¹³ *FCC's Virginia Arbitration Order*, ¶ 458-459.

¹⁴ *FCC's Virginia Arbitration Order*, ¶ 463-465.

1 With regards to RTU fees, the FCC found, “that RTU fees should be recovered on a per
2 port basis for reasons similar to those set forth above with respect to “getting started”
3 costs and EPHC costs.”

4 Although extremely unlikely to occur in any scenario involving the Utah LECs, even in
5 the most controversial and complicated of switch costing, the Shared Peak-Period Costs,
6 the FCC provided explanation in paragraphs 475 - 477 and then concluded:

7 Based on the potential for under-recovery that might exist if we require two different rate
8 structures, we find that the shared, peak-period costs should be recovered on a flat, per
9 port basis in both agreements. As explained above, this approach avoids the competitive
10 disadvantages associated with use of a per MOU price imposed on all usage and it avoids
11 the problems involved with estimating the minutes of use over which to spread an
12 estimate of switching costs.¹⁵ (*footnotes omitted*)

13 Most importantly, the Commission found that switching costs should be excluded from
14 reciprocal compensation prices:

15 We find that end-office switch and shared end-office trunk port costs should be excluded
16 from both Meet-Point A and Meet-Point B reciprocal compensation prices, consistent
17 with our decision to adopt a flat, per port price for unbundled end-office switching. The
18 general formula for developing a UNE price under TELRIC is to divide total cost by total
19 demand. If we prescribe a flat, per line port price for unbundled end-office switching,
20 including shared end office trunk ports, the switch price equals total switch costs divided
21 by total line ports. The price derived from this formula, if imposed on both competitive
22 LECs that purchase the incumbent LEC’s line ports and the incumbent LEC’s end-users,
23 would fully compensate the incumbent LEC for all of its switch costs. Competitive LECs
24 that pay a flat, per line port price for unbundled end-office switching should not,
25 therefore, pay the incumbent LEC any additional amount for use of end-office switching
26 to terminate reciprocal compensation traffic.¹⁶ (*footnotes omitted*)

27 In short, the FCC has now settled the issue of how switch costs should be recovered, and
28 it is clear that they should not be recovered on a per-minute basis because that is not how
29 the costs are incurred.

¹⁵ *FCC’s Virginia Arbitration Order*, ¶ 483.

¹⁶ *FCC’s Virginia Arbitration Order*, ¶ 488.

1 **Q. HOW HAS THIS COMMISSION RULED ON THIS ISSUE IN THE PAST?**

2 A. Most glaring in Mr. Duval's attempt to include the usage-sensitive switching costs in his
3 rates for interconnection is the blatant disregard for the Utah Public Service
4 Commission's recent determination on this issue in the (May 15, 2003) UNE proceeding.
5 The Utah Commission declared a flat-rate unbundled switching rate explicitly in lieu of a
6 usage-sensitive rate.

7 The Commission finds that where possible, costs should be billed to CLECs in the same
8 manner as they were incurred by Qwest. To do otherwise sends distorted price signals
9 that will artificially induce or retard the development of competition for the related
10 services. Certainly the experience the industry has gone through with reciprocal
11 compensation illustrates the futility and danger of devising artificial pricing structures.

12 Qwest is charged a flat, fixed, per line price for switching once basic capacity and design
13 issues have been accounted for. Given that a TELRIC network is designed to meet
14 current demand, the capacity issues at stake in this issue will have been accounted for in
15 the modeler's inputs and assumptions. As established by the testimony in this case from
16 the Joint CLECs' witness, the most current estimate of average Utah usage demand is
17 3.37 centi call seconds (CCS). We have testimony in the form of excerpts from two
18 contracts with different switching vendors in this Docket that reflect relatively current
19 pricing as introduced by Qwest's witnesses. In both cases, the CCS design parameters set
20 in those contracts accommodate Utah's average CCS levels; hence the base rates in these
21 contracts are more than sufficient to serve current demand (as TELRIC requires) with no
22 usage sensitive charges. AT&T/MCI points to the FCC's determinations of switching
23 costs and its own evaluation of the current contracts to support its (lower) number. As
24 AT&T's and MCI's witness points out, the Division's and Qwest's switching cost inputs,
25 which are based on these contracts and expert opinion, include additional costs to account
26 for future growth, upgrades, and unreasonable levels of spare capacity. AT&T's and
27 MCI's witnesses argue that if switch costs were inflated to account for future customers
28 and upgrades, then a corresponding inflation in line count would be necessary.

29 We find that a TELRIC-compliant model serves current demand. Therefore, we agree
30 with AT&T/MCI that current demand and the capacity needed to serve it should drive the
31 switching cost inputs. Neither Qwest nor the Joint CLECs provided the underlying
32 documentation to the Division; in the case of the Joint CLECs they could not because the
33 RBOCs (including Qwest) who provided information to the FCC stipulated that it be kept
34 confidential, and in Qwest's case because they chose not to.

35 All parties agree that digital switching costs have dropped and continue to drop
36 significantly over time. The issue then is to set a price that reflects current realities. We
37 adopt AT&T's default inputs for the basic switch investment. **We clarify that switching**
38 **will be billed on a flat-rate basis, with no usage charges.** We direct the Division to
39 adjust its version of the HAI model to the AT&T default switching investment input of

1 \$89.00, and to use the flat rate monthly price for switching developed by the HAI model
2 as adjusted in this Order.¹⁷ (*emphasis added*)

3 **Q. WHAT IMPLICATIONS DOES THIS HAVE FOR ESTIMATING THE**
4 **FORWARD-LOOKING COSTS OF LOCAL SWITCHING?**

5 A. For the reasons articulated above, switch costs are rarely or never a function of the level
6 of usage on a switch, but instead a function of the number of lines served by the switch.
7 Because changes in the level of switch usage create virtually no change in cost, all switch
8 costs should be recovered on a per port basis.

9 ***5. Quantification Of The Maximum Rate For Direct-Routed Calls***
10 ***(Interconnected at the End Office)***

11 **Q. HOW DOES THIS AFFECT THE MAXIMUM POSSIBLE RATE FOR**
12 **INTERCONNECTION AT THE END OFFICE BETWEEN WESTERN**
13 **WIRELESS AND EACH OF THE UTAH LECS?**

14 A. The following table presents the maximum rates (interconnected at the end office)
15 allowable after the proper removal of switching costs.

16
¹⁷ BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH, In the Matter of the Determination of the Cost of the Unbundled Loop of QWEST CORPORATION, DOCKET NO. 01 049 85, REPORT AND ORDER,ISSUED: May 5, 2003, pages 16-18. This order is included as Exhibit BFP-6.

1 **Figure 1**

2 **Rates for Interconnection at the End Office**

	<u>Gunnison</u>	<u>Manti</u>	<u>SCUTA</u>	<u>UBTA-UBET</u>
Proposed Rate	\$ 0.02134	\$ 0.02321	\$ 0.02831	\$ 0.01441
Maximum Rate	\$ 0.00892	\$ 0.00665	\$ 0.01081	\$ 0.00445
Percent Reduction	-58.20%	-71.35%	-61.82%	-69.12%

3 Thus, one thing is blatantly clear from the above chart – no matter what other errors exist
 4 in the rates proposed by the Utah LECs, appropriately removing the switching-related
 5 costs drastically reduces the rates they propose in this proceeding. Moreover, given the
 6 facts in this proceeding and the recent determinations by both the FCC and this
 7 Commission, there is no question that switching costs are properly excluded from the
 8 rates at issue in this proceeding.

9 ***6. Quantification Of The Maximum Rate For Tandem-Routed Calls***
 10 ***(Interconnected at the End Office)***

11 **Q. WHAT IS THE MAXIMUM POSSIBLE RATE FOR INTERCONNECTION AT**
 12 **THE TANDEM BETWEEN WESTERN WIRELESS AND EACH OF THE UTAH**
 13 **LECS?**

14 **A.** The Utah LECs have developed two rates in this proceeding. The first rate, those restated
 15 above, address the rates for interconnection at the Utah LEC’s end office. However, the
 16 Utah LECs also propose a rate for interconnecting at Qwest’s tandem. Specifically, in
 17 response to Western Wireless’ data request number 41, the Utah LECs identify that

18 Traffic originated by Western Wireless and terminated to the Utah ILECs would generate
 19 compensation to the Utah ILECs based on one of two proposed rates. The rate labeled
 20 “tandem (common)” on Exhibit CAD-3 would only apply when Western Wireless elects
 21 to deliver their traffic to a Utah ILEC at the Qwest tandem. Although none of the Utah
 22 ILECs has a tandem switch in place, the Tandem Switching rate element proposed would
 23 still apply to this traffic. The transport rate elements are designed to recover the Utah
 24 ILECs’ investments in interoffice facilities that carry the traffic. The model develops
 25 transport costs based on the amount of traffic routed over the network and the resultant
 26 trunking necessary to carry this traffic.

1 Should Western Wireless elect to deliver their traffic to a Utah ILEC via dedicated
2 facilities, the rate labeled “end office (dedicated)” would apply. In this scenario the
3 Tandem Switching rate element does not apply. However, the transport rate elements
4 would still apply.

5 To understand the importance of this response, it is necessary to understand that the
6 “tandem (common)” rate identified by the Utah LECs are comprised of two different
7 elements. The first element is common transport, or the interoffice facilities carrying
8 traffic between the Qwest tandem and a Utah LEC’s end office. The second element is
9 tandem switching, or the switch that is owned by Qwest that provides a switching
10 function.

11 The Utah LECs’ discovery response makes it perfectly clear that the tandem
12 interconnection rate should apply “to recover the Utah ILEC’s investments in interoffice
13 facilities that carry the traffic.” However, the Utah LECs have inexplicably left in the
14 portion of the “tandem (common)” rate associated with the *tandem switch*, not just the
15 interoffice facilities. Given that the Utah LECs fully admit “none of the Utah ILECs has
16 a tandem switch in place,” there is absolutely no justification for compensating the Utah
17 LECs for a *tandem switch* that they do not own.

18 Eliminating both the End Office switching and Tandem Switching elements results in the
19 following maximum rates for the interconnection at the tandem.

20

1 **Figure 2**

2 **Rates for Interconnection at the Tandem**

	<u>Gunnison</u>	<u>Manti</u>	<u>SCUTA</u>	<u>UBTA-UBET</u>
Proposed Rate	\$ 0.03023	\$ 0.03474	\$ 0.05850	\$ 0.02912
Maximum Rate	\$ 0.01756	\$ 0.01793	\$ 0.04069	\$ 0.01812
Percent Reduction	-41.91%	-48.39%	-30.44%	-37.77%

3 In short, the Utah LECs are also drastically overstating the costs of interconnection at the
4 tandem by including both end office switching costs and tandem switching costs.

5 ***7. Although Irrelevant, Utah LECs' Switching Costs Violate TELRIC***

6 **Q. WHY ARE THE UTAH LECs' SWITCHING COSTS IRRELEVANT?**

7 A. As I have explained above, all switching costs should be removed from the
8 interconnection reciprocal compensation rate. It is only because of the gross error made
9 in the estimation of the switching costs that I must address this issue. The Utah LEC
10 costs studies attempt, purposefully, to replicate their actual embedded switching
11 investments, instead of forward looking costs..

12 **Q. HOW ARE THE SWITCHING COSTS USED IN THE UTAH LEC COST**
13 **STUDIES IN VIOLATION OF TELRIC COSTING PRINCIPLES?**

14 A. Mr. Duval clearly states in his testimony that the switching cost inputs “were modified
15 for each of the Companies ... to reflect the company’s actual switching architecture and
16 to more closely match the company’s actual investment in switching equipment.”¹⁸ This
17 statement is misleading, at best. The Utah Commission should not be fooled into
18 thinking that Mr. Duval calculated a more appropriate company-specific forward-looking
19 input to the Model.

¹⁸ Duval Direct Testimony, Lines 398-403

1 When asked to describe the switching cost inputs used in the cost studies, the Utah LECs
2 explained,

3 The modification of the switching investment was not an exact science, as the model has
4 many different variables that impact switching costs. The process that was used to
5 develop switching costs was an iterative one, in which the model was first run with the
6 default inputs to determine a baseline for comparison. The model was then adjusted on a
7 per line basis to closely approximate the total switching investment of the Utah ILECs.
8 Exhibit 14.1 shows that the resultant switching investments ranged from 12.14% less than
9 the company's actual investment to 0.74% greater than the company's actual
10 investment.¹⁹

11 In short, the Utah LECs blatantly adjusted the input until the resulting total investment
12 approximated each company's booked switching investment. There is no point in using a
13 "forward-looking" costing tool, if you're just going to side-step the intricate and
14 complicated calculations of the appropriate investment with your own embedded result.
15 This flies in the face of the FCC's order on embedded costs. Specifically, under the
16 section titled "Cost Measures Not Included in Forward-Looking
17 Cost Methodology" of the Local Competition Order, the FCC states:

18 704. Embedded Costs. We read section 252(d)(1)(A)(i) to prohibit states from conducting
19 traditional rate-of-return or other rate-based proceedings to determine rates for
20 interconnection and access to unbundled network elements.²⁰

21 Also, The FCC clearly states in Appendix B – Final Rules under the caption "§ 51.505
22 Forward-looking economic cost" that:

23 (d) Factors that may not be considered. The following factors shall not be considered in a
24 calculation of the forward-looking economic cost of an element:

25 (1) Embedded costs. Embedded costs are the costs that the incumbent LEC incurred
26 in the past and that are recorded in the incumbent LEC's books of accounts.²¹

¹⁹ ILECs response to Western Wireless Request 45.

²⁰ *Local Competition Order*, ¶ 704.

1 The Utah LECs’ “method” for effectively replicating its own embedded switching
2 investment must be thrown out. While no recalculation is necessary because the
3 switching rate should be excluded in its entirety from the interconnection rates, the
4 method that the Utah LECs used to derive switching rates shows a blatant disregarding
5 for forward-looking costing techniques.

6 **Q. HOW CAN THE UTAH COMMISSION RESOLVE THIS ISSUE?**

7 A. The Utah Commission should not allow the Utah LECs to recover switch costs using a
8 usage-sensitive rate. I recommend that this Commission follow the standard cost
9 causation principles required in the TELRIC approach, the guidance of the FCC and most
10 importantly its own recent determination in the Qwest unbundled loop proceeding.

11 **B. The Utah LECs’ Failure To Incorporate Any Amount Of Structure Sharing In**
12 **The Interoffice Network is Absurd**

13 **Q. WHAT IS STRUCTURE SHARING, WHY IS IT IMPORTANT, AND WHAT**
14 **PORTION IS RELEVANT TO THIS PROCEEDING?**

15 A. Structure sharing, in this context, is the ability of a telecommunications carrier to share a
16 portion of its structure costs, with structure being defined as poles, conduit, or trenches.
17 Specifically, the issue here is how much of the Utah LECs interoffice structure should be
18 assumed to be shared in the least-cost, forward-looking context envisioned by TELRIC.
19 There are many ways to share structure. First, structure could be shared with other
20 utilities, such as electric utilities and cable television. However, structure can also be
21 shared (and usually is) with other telecommunications providers or other

²¹ *Local Competition Order*, Appendix B – Final Rules.

1 telecommunications services provided by the Utah LECs. For example, a Utah LEC that
2 provides cable television services (such as SCUTA) will share many of the costs between
3 the various services it provides. Also, the facilities use to provide interconnection with
4 Western Wireless may also be used to provide data services that are not included in the
5 cost model. The important point is to share the structure costs with all of the services
6 utilizing that network so that basic telecommunications services are not subsidizing the
7 costs of other services.

8 More specifically, interconnection costs are driven by interoffice facilities (transport
9 facilities). While the Utah LECs modified many inputs of the HAI Model, the most
10 relevant inputs for the purpose of this proceeding relate to the costs associated with these
11 interoffice facilities. Thus, many of Mr. Duval's arguments regarding the ability to share
12 structure costs based on presumed difficulties sharing structure with electric utilities and
13 average lot size simply are not relevant.

14 **Q. WHAT ARE MR. DUVAL'S STRUCTURE SHARING ASSUMPTIONS IN THE**
15 **COST STUDIES?**

16 A. Mr. Duval proposes,

17 that the structure sharing for buried and underground plant for all density zones should be
18 set at 100%; that is the full cost of the buried structures are assigned to the telephone
19 company. For aerial cable, a 100% structure sharing assumption is assumed for the first
20 three zones, but a 50% assumption is used in Zone 4 and higher where telephone
21 company aerial cable, if built, frequently shares poles with the electric company

22 His argument for this assumption is that he "believe[s] that there are strong economic and
23 safety reasons why electric plant is generally aerial while the telephone plant is buried."

1 What Mr. Duvall fails to realize is that not only do the electric utilities share the same
2 routes with telecommunications providers but cable and other telecommunications
3 services (such as data services) also share the same infrastructure.

4 Second, Mr. Duval's "discussions with clients about their communities throughout the
5 mid-western and western parts of the country" are of little relevance when thought in
6 context of interoffice plant. The issue here is not the size of a customer's lot or the
7 communities they live in but the long-haul interoffice plant that has a much higher degree
8 of sharing than distribution or feeder facilities.

9 Further, Mr. Duval alleges that he has changed the amount of sharing for aerial plant.

10 While the may be true, it has little relevance to the costs produced by the model because
11 Mr. Duval also assumes that no telecommunications plant will use aerial facilities. The
12 simple fact is that Mr. Duval has made the unreasonable assumption that there is
13 *absolutely no sharing* of any sort for *any interoffice plant* of *any of the Utah LECs*. In
14 my opinion, such an assumption cannot be justified.

15 **Q. HOW DID THE UTAH COMMISSION RULE ON INTEROFFICE STRUCTURE**
16 **SHARING PERCENTAGES IN THE RECENT UNE PROCEEDING?**

17 A. In the recent UNE proceeding, the Utah Commission found that the appropriate amount
18 of structure sharing for buried *interoffice* plant was 60%, well above the 33% HAI Model
19 default. Again, the Commission appropriately recognized that there are more sharing
20 opportunities for interoffice plant than distribution plant (the Commission adopted
21 sharing percentages from 68% to 90% for both distribution and feeder plant). Again, the
22 Utah LECs have completely ignored this Commission's prior decisions in this proceeding

1 and have offered absolutely no evidence to suggest that the Commission erred in its
2 determination in the prior UNE proceeding.

3 **C. The Utah LECs' Demand Estimates Are Inaccurate**

4 **Q. WHAT EVIDENCE SHOWS THAT THE UTAH LECS HAVE UNDERSTATED**
5 **THE DEMAND IN THE CALCULATION OF THE INTERCONNECTION**
6 **RATES?**

7 A. Both Mr. Duval's own testimony and the companies' workpapers show that the number
8 of lines used as inputs to the HAI Model are understated. Furthermore, the traffic
9 assumptions used in the companies' cost studies understate the transport volume actually
10 incurred by each of the companies.

11 **Q. HOW ARE THE COMPANIES' LINE COUNTS UNDERSTATED?**

12 A. Mr. Duval chose to use default line counts, even when company-specific data was
13 available to him. Considering the hundreds of changes he made to the HAI Model
14 default inputs, I cannot understand the rationale for failing to adjust this important input
15 in the Model. He even concedes that the model generated lines are very different from
16 the actual line counts, stating, "A review of the access lines developed by the model
17 compared to actual company lines...shows significant differences on an individual
18 company level." This is simply unacceptable.

19 **Q. WHAT IS WRONG WITH THE TRAFFIC ESTIMATES USED IN THE COST**
20 **STUDIES?**

21 A. I am uncomfortable with the traffic data used in the cost studies. Unfortunately, we have
22 not been provided any traffic studies to evaluate as part of this proceeding. However, a
23 brief review of the changes in the amount of dial equipment minutes the Utah LECs have

1 incorporated into the study shows dramatic swings from the HAI Model defaults. While
2 I am not yet able to make any firm conclusions into the accuracy or appropriateness of
3 the traffic parameters that form the basis for the proposed rates, I will continue to
4 investigate this issue once the Utah LECs provide the supporting data.

5 **Q. WHY ARE THE TRAFFIC VOLUMES SO IMPORTANT?**

6 A. Simply put, these parameters go into the denominator of the transport rate calculations.
7 For dedicated transport, the total annual cost for the facilities is calculated and then
8 divided by the number of trunks. Under the Utah LECs' methodology, the total annual
9 cost for common transport is also divided by total minutes of use. Any error in these
10 values will have a direct and dramatic impact on the resulting rates.

11 **D. The Utah LECs' Other Changes are Erroneous**

12 **Q. WHAT OTHER ERRORS EXIST IN THE MODEL PUT FORTH BY THE UTAH**
13 **LECS?**

14 A. There are hundreds of inputs that Mr. Duval saw fit to change in the running of the
15 companies' cost studies, most of which will need to be evaluated (again, the most
16 important values in the context of this proceeding relate to interoffice transport and
17 expenses, not the local loop plant). However, there are several errors that I have
18 observed that must be addressed including: the Companies' costs for placing buried
19 cable, the alternate switching factor, the forward-looking network operations factor, and
20 the use of the older version of HAI 5.0a.

21

1 **Q. WHAT IS WRONG WITH THE UTAH LECs’ COST FOR PLACING BURIED**
2 **FIBER?**

3 A. The Utah LECs have used a “pick and choose” methodology with regards to most of their
4 cost input changes. In response to Western Wireless’ request for documentation for the
5 input changes made in the companies’ cost studies, a single file was produced for all four
6 companies, “Exhibit 14-1.pdf.” This file contains what appear to be quotes from a
7 vendor and 5 “telcos.” There does not appear to be any systematic methodology for the
8 selection of the input costs. Apparently, if the Utah LECs had a different cost than the
9 default input value assumed by the HAI 5.0a, they would then “pick” one. There appears
10 to be no logical process to how the specific values were chosen when more than one was
11 available to them. We have requested the underlying vendor and telco quotes to verify
12 the source of these inputs, but again, these have yet to be produced.²²

13 **Q. WHAT IS WRONG WITH MR. DUVAL’S PROPOSAL FOR AN ALTERNATE**
14 **SWITCHING FACTOR?**

15 A. The alternate switching factor is a forward-looking expense to investment factor that
16 should be used as part of a forward-looking study. In other words, forward-looking
17 switching expenses are determined by multiplying this factor by the model generated
18 switching investments. Mr. Duval changes the switching factor used to compute
19 switching expenses by adjusting the input to reflect the Utah LEC’s embedded expense to
20 investment relationship. I will not reiterate my prior arguments that the FCC has
21 expressly forbidden the use of embedded data in the determination of forward-looking
22 costs. However, by forcing the model to replicate the embedded book cost of the Utah

²² The Division of Public Utilities has also requested this very important supporting documentation. See, DPU Data Request #2, question 2.7

1 LECs' switching investments and the embedded expense to investment relationship, the
2 Utah LECs have done nothing but jerry-rigged the model to produce its embedded costs.
3 A more straight-forward way of reaching these numbers would have been for Mr. Duval
4 to simply eliminate the use of any model and put forth each of the Utah LECs books of
5 account. The Commission should not let the Utah LECs undermine this proceeding in
6 this way.

7 **Q. WHAT IS WRONG WITH MR. DUVAL'S PROPOSAL FOR AN ALTERNATE**
8 **NETWORK OPERATIONS FACTOR?**

9 A. Again, Mr. Duvall is again attempting to remove the forward-looking nature of the HAI
10 Model. Here, Mr. Duval attempts to convince this Commission that there are no
11 efficiencies associated with the network operations of the Utah LECs in the TELRIC
12 environment. In other words, he is saying that the entire network operations expenses
13 should be recovered regardless of the efficiencies associated with a forward-looking
14 network. He states, "it is very unlikely that any of these costs are eliminated, or even
15 reduced, in a forward-looking environment." Again, Mr. Duval is simply trying to
16 undermine the TELRIC concepts and reproduce embedded costs.

17 Further, Mr. Duval completely ignores that a portion of the network operations expenses
18 are associated with services not included in the forward-looking cost study. In other
19 words, he associates all network operations costs with only basic lines – ignoring the
20 other lines of business associated with the Utah LECs, such as DSL, ISP, long-distance
21 resale, wireless and cable television operations. The Commission should not allow basic
22 telecommunications services to bear the full burden of these costs that are appropriately
23 attributed to the full scope of the Utah LECs' operations.

1 **Q. WHY DO YOU TAKE ISSUE WITH THE HAI MODEL USED BY THE UTAH**
2 **LECS?**

3 A. The HAI Model, version 5.0a, that the Utah LECs rely on in this proceeding, is not the
4 most recent version of the Model. The most recent version of the HAI Model is version
5 5.3, which incorporates many new improvements, including corrections necessary for the
6 proper calculation of the transport rates. The most recent version of the HAI Model
7 produces lower rates than the prior versions of the model.

8 In short, the more recent releases of the HAI Model reflect modifications to address
9 several cost overstatements that had been recognized by many parties. Specifically, the
10 FCC recognizes that the HAI Model produces transport costs that are too high:

11 Finally, a simple comparison of the costs and rates produced by the two models supports
12 the finding that the Verizon study results in the “lowest cost network configuration,” as
13 required by the Commission’s rules. Because Verizon has incentives to overstate rather
14 than understate the cost of providing network elements, and because Verizon’s common
15 transport cost study satisfies the Commission’s other criteria (e.g., transparency; use of
16 efficient, currently available technology), the fact that Verizon’s cost study produces a
17 lower cost estimate indicates that its study better reflects a lower cost network
18 configuration for common transport than does the MSM. Accordingly, we conclude that
19 the Verizon cost study is the better choice for calculating common transport costs and
20 rates.²³

21 The Commission should require that costs be based on the most recent and up-to-date
22 cost model available at the time a proceeding is going on. The Commission Staff has
23 itself recognized, as its discovery requests make clear, that Mr. Duval has made no
24 attempt to reflect the Utah Commission’s most recent findings in his proposal in this
25 proceeding. Specifically, the Commission recently relied on the HAI Model version 5.2,
26 a more recent version than the version 5.0a relied on by the Utah LECs.

²³ *FCC’s Virginia Arbitration Order*, ¶ 508.

1 I have contacted Mr. Chandler of HAI Consulting and will be receiving the most recent
2 version of the HAI Model to perform additional review. While I do not know of the
3 exact amount of overstatement that results from using an outdated version of the HAI
4 Model that is known to overstate transport costs. I do know that the most recent version
5 produces lower transport costs than its predecessors.

6 I am also aware that just this past week (once the DPU Staff issued its discovery
7 requests), Mr. Duval did contact Mr. Chandler about receiving the HAI Model 5.2.
8 However, even at this time, Mr. Duval did not ask Mr. Chandler to provide him with the
9 most recent version of the HAI Model – something that would seem to be appropriate if
10 one were trying to produce the most accurate cost estimates possible.

11 Interestingly, the Utah LECs' October 14, 2003 response to Staff's discovery request
12 about the use of the HAI Model 5.2 states that

13 it is clear that utilization of a model other than the one currently being used at this stage
14 in the arbitration process would add significant cost and time to the process. In
15 particular, the cost to the Rural ILECs would include not only the cost of acquiring the
16 Model and the Utah specific data set, but also the cost of the Rural ILECs' consultants to
17 review and run the Model with the company specific inputs modified in the initial filings.

18 This response is disingenuous given that Mr. Chandler had spoken with Mr. Duval the
19 prior week and agreed to provide him a copy of the HAI Model as filed in Utah (with the
20 Utah data set) free of charge except for the use of Mr. Duval's Federal Express number of
21 the cost of sending the model. Now, a week after that discussion (and, unless Federal
22 Express had unheard of delays) the Utah LECs are answering discovery responses
23 complaining about the costs of acquiring the model and the Utah specific data set.

1 I urge the Commission to use the most recent, most reliable version of the HAI Model
2 that is available, and that version is the HAI Model version 5.3.

3 **Q. HAVE YOU EVALUATED THE IMPACT ON COSTS BETWEEN THE HAI 5.0A**
4 **AND THE HAI 5.3?**

5 A. While I have not had sufficient opportunity to evaluate the impact of the HAI Model 5.3
6 on the costs of interconnection for the Utah LECs, I have been able to perform some
7 initial review of the differences in rates that the model produces. Specifically, the HAI
8 Model 5.3 produces interconnection rates that are 75% lower than the HAI Model 5.0a
9 when interconnected at the end office and rates that are 45% lower when interconnected a
10 the tandem. Of this total reduction, much of it comes from the HAI Model's exclusion of
11 end office switching costs in interconnection rates. However, it is notable the HAI Model
12 5.3 results in dedicated transport rates that are approximately 25% lower than the HAI
13 Model 5.0a and common transport costs that are approximately 20% lower than in the
14 HAI Model 5.0a. Thus, Mr. Duval's reliance on an outdated version of the model that is
15 widely accepted as producing overstated costs cannot be reasonably used as the basis for
16 setting interconnection rates in this proceeding. I am continuing to investigate the ability
17 to use the HAI Model 5.3 for the Utah LECs and will provide a full restatement of
18 interconnection rates when I have completed that analysis.²⁴

19 **IV. SUMMARY OF FINDINGS**

20 **Q. CAN YOU PLEASE SUMMARIZE YOUR TESTIMONY?**

²⁴ The HAI Model 5.3 does not have the same structure as the 5.0a and 5.2 versions and requires more work to integrate the Utah LECs proposals into its structure.

1 A. Yes. I have reviewed the cost study and documentation provided by the Utah LECs and I
2 conclude that they have grossly overstated forward-looking interconnection rates
3 (according to the FCC's definition of forward-looking economic costs).

4 **Q. DO MR. DUVALS PROPOSED RATES REFLECT APPROPRIATE FORWARD-**
5 **LOOKING COSTS?**

6 A. No. When transport and termination rates have been established for Bell Companies in
7 TELRIC cost proceedings, those rates have generally been under \$0.005 per minute. For
8 example, I understand the Utah Commission's decision resulted in end office switching
9 rates of \$0.001798 and tandem transmission rates less than one tenth of a cent per minute
10 of use.²⁵ It is not reasonable to simply assume that TELRIC rates for any of the Utah
11 LECs should be ten or more times higher than the rate of a Bell Company. I analyzed
12 rural company cost studies for Western Wireless in North Dakota last year, and in South
13 Dakota and Nebraska earlier this year. Using the rural company witness' general
14 methodology, and data provided by the rural companies themselves, I conducted analyses
15 demonstrating that even small rural companies had TELRIC rates comparable to Bell
16 Company rates. I am convinced that rural company claims of TELRIC costs of end
17 office rates of between \$0.014-\$0.054 per minute and tandem rates of between \$0.029
18 and \$0.107 cannot hold up to scrutiny.

19 Further, my testimony clearly indicates that the absolute maximum rates cannot exceed
20 the rates after removing the end-office switching costs because those costs are not usage-
21 sensitive. Unfortunately, I have not yet been given an opportunity to adjust the Utah
22 LECs' rates for the other items because they have prevented any meaningful evaluation

²⁵ See, *Williams Rebuttal* at 5.

1 of their proposal by password protecting the spreadsheet that contains the model results
2 and completely failed to provide a working copy of the model they did rely on in this
3 proceeding.

4 Moreover, it is important to note that the maximum rates I identify previously are too
5 high. Specifically, the Utah LECs' "pick and choose" methodology for developing
6 model inputs, the complete disregard for incorporating forward-looking adjustments in
7 the Model's structure sharing assumptions, alternative switching expense factor, network
8 operations factor, and the reliance on an outdated model that is know to produce
9 overstated transport costs and ignoring the more recent version that have largely
10 corrected this error shows that the Utah LECs are not interested in generating forward-
11 looking costs but are merely attempting to manipulate a TELRIC model into replicating
12 its embedded costs.

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

14 A. Yes it does.