

BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

In the Matter of the Petition of QWEST)	
CORPORATION for Arbitration of an)	
Interconnection Agreement with UNION)	DOCKET NO. 04-049-145
TELEPHONE COMPANY d/b/a UNION)	
CELLULAR under Section 252 of the)	
Federal Telecommunications Act)	

REBUTTAL TESTIMONY OF

PETER B. COPELAND

ON BEHALF OF

QWEST CORPORATION

QWEST EXHIBIT 3R

OCTOBER 24, 2005

TABLE OF CONTENTS

	<u>PAGE</u>
I. IDENTIFICATION OF WITNESS	1
II. PURPOSE OF TESTIMONY	2
III. FEDERAL STATUTES, RULES, AND TELRIC	3
IV. PROBLEMS IN THE UNION COST STUDY	10
V. CORRECTIONS TO THE UNION COST STUDY	18

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19

I. IDENTIFICATION OF WITNESS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Peter B. Copeland and my business address is 1801 California St., Denver, Colorado 80202. I am employed by Qwest Services Corporation (“Qwest”) as Director, Cost and Economic Analysis, in the Public Policy organization.

Q. PLEASE DESCRIBE YOUR WORK EXPERIENCE.

A. I have been employed by Qwest, U S WEST, and Bellcore for the past 24 years. My experience with Qwest and Bellcore includes responsibility for the development of wholesale and retail cost studies, models of the local exchange network, universal service advocacy, jurisdictional separations, and rate development.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND.

A. I have a Bachelor of Arts degree from Brown University in Urban Studies and a Master of Public Administration from the University of Colorado.

Q. WHAT ARE YOUR CURRENT JOB DUTIES?

A. My current responsibilities include the supervision and development of all wholesale and retail forward-looking cost studies for Qwest. Additionally, my group provides economic analysis for regulatory proceedings.

20 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION**
21 **OR OTHER STATE COMMISSIONS?**

22 A. Yes. I have testified before the Utah Commission in unbundled network element
23 cost proceedings and universal service proceedings. I have also testified in other
24 states, including Arizona, Colorado, Idaho, Iowa, Minnesota, Montana, Nebraska,
25 New Mexico, North Dakota, Oregon, Washington, and Wyoming. I have also
26 appeared as a panel member before the FCC concerning Universal Service
27 costing.

28 **II. PURPOSE OF TESTIMONY**

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

30 A. The purpose of my testimony is to address the forward-looking cost study put
31 forth by Union witness Jason P. Hendricks for asymmetrical compensation for
32 transport and termination. My testimony focuses on three major areas: 1) the
33 federal statutes, the federal rules governing the calculation of asymmetrical
34 compensation rates, and the Utah Commission's standard for Total Element Long
35 Run Incremental Cost (TELRIC); 2) the problems presented by Union's cost
36 study in meeting the statutes, rules, and TELRIC standards associated with
37 asymmetrical compensation; and 3) corrections to the Union cost study, based on
38 the best available information, to make the study compliant with the FCC rules
39 and consistent with the Utah Commission's application of the TELRIC standards.

40 It is important to note that in order to file complete and accurate rebuttal
41 testimony, Qwest needs all of Union's responses to Qwest's data requests. At the
42 time of drafting this rebuttal, Qwest did not have responses from Union to any
43 cost-related questions in Qwest's First Set of Data Requests dated October 18,
44 2005. If necessary, Qwest will supplement its initial rebuttal testimony to
45 incorporate Union's forthcoming responses.

46 **III. FEDERAL STATUTES, RULES, AND TELRIC**

47 **Q. UNION SEEKS AN ASYMMETRICAL RECIPROCAL COMPENSATION**
48 **RATE IN THIS CASE. WHAT FEDERAL STATUTES GOVERN**
49 **RECIPROCAL COMPENSATION?**

50 A. Section 251(b)(5) of the 1996 Telecommunications Act (“the Act”) says, “Each
51 local exchange carrier has the duty to establish reciprocal compensation
52 arrangements for the transport and termination of telecommunications.” The Act,
53 at § 252(d)(2)(A)(ii), also directs that the terms and conditions for reciprocal
54 compensation will not be considered just and reasonable unless “such terms and
55 conditions determine such costs on the basis of a reasonable approximation of the
56 *additional costs* of terminating such calls” (emphasis added). The FCC rules for
57 the pricing of the transport and termination for reciprocal compensation directly
58 follow the statutory directives of the Act.

59 **Q. WHAT DO THE FCC RULES SPECIFICALLY STATE CONCERNING**
60 **ASYMMETRICAL RATES FOR THE TRANSPORT AND**
61 **TERMINATION OF CALLS TO A CMRS PROVIDER?**

62 A. Section 51.711(c) of Title 47 of the Code of Federal Regulations §states that a
63 wireless carrier “may assess upon other carriers for the transport and termination
64 of telecommunications traffic based on the forward-looking costs that such
65 licensees incur in providing such services, pursuant to Sec. Sec. 51.505 and
66 51.511.” Further at Section 51.709, the FCC describes the rate structure for
67 transport and termination: “(a) ... a state commission shall establish rates for the
68 transport and termination of telecommunications traffic that are structured
69 consistently with the manner that carriers incur those costs, and consistently with
70 the principles in Sec. Sec. 51.507 and 51.509.”

71 **Q. ARE THERE ANY FCC ORDERS THAT FURTHER EXPLAIN THE**
72 **COMPONENTS OF A FORWARD-LOOKING RECIPROCAL**
73 **COMPENSATION RATE FOR TERMINATION?**

74 A. Yes. The FCC discussed "additional costs" for the "transport and termination" of
75 local traffic at paragraphs 1056-1058 of its *Local Competition Order*, 11 FCC
76 Rcd. 11,501. At paragraph 1057, the FCC states

77 We find that, once a call has been delivered to the incumbent LEC end
78 office serving the called party, the 'additional cost' to the LEC of
79 terminating a call that originates on a competing carrier's network
80 primarily consists of the traffic-sensitive component of local

81 switching. The network elements involved with the termination of traffic
82 include the end-office switch and local loop. The costs of local loops and
83 line ports associated with local switches do not vary in proportion to the
84 number of calls terminated over these facilities. We conclude that such
85 non-traffic sensitive costs should not be considered "additional costs"
86 when a LEC terminates a call that originated on the network of a
87 competing carrier. For the purposes of setting rates under section
88 252(d)(2), only that portion of the forward-looking, economic cost of end-
89 office switching that is recovered on a usage-sensitive basis constitutes an
90 'additional cost' to be recovered through termination charges.

91 While the above language is framed in terms of the ILEC, it applies to both
92 parties to the interconnection agreement.

93 **Q. THE FCC RULES AT 47 C.F.R. §51.711(B) AND (C) STATE THAT A**
94 **STATE COMMISSION MAY ADOPT AN ASYMMETRICAL RATE FOR**
95 **TRANSPORT AND TERMINATION OF TELECOMMUNICATIONS**
96 **TRAFFIC ONLY IF THE CARRIER OTHER THAN THE INCUMBENT**
97 **PROVES THE NECESSITY FOR SUCH A RATE ON THE BASIS OF A**
98 **COST STUDY USING THE FORWARD-LOOKING-ECONOMIC-COST-**
99 **BASED-PRICING METHODOLOGY DESCRIBED IN §51.505 AND**
100 **§51.511. DOES UNION CELLULAR'S COST STUDY PROVIDE**
101 **SUFFICIENT PROOF OF THE ADDITIONAL COSTS UNDERLYING**
102 **ITS PRICES AS DETAILED IN §51.505?**

103 A. No. In plain violation of the Act's "additional cost" standard, and the FCC's
104 interpretation thereof in the *Local Competition Order*, Union Cellular included
105 non-traffic sensitive costs (i.e. the cost of current and future cell sites) as

106 “additional costs” in its termination cost. Furthermore, even for those switch and
107 transport costs that are traffic sensitive, Union has not provided sufficient
108 documentation to prove those costs.

109 **Q. DOES UNION'S COST STUDY WITNESS, MR. HENDRICKS, CONTEND**
110 **THAT UNION'S COST STUDY IS LIMITED TO DETERMINING THE**
111 **"ADDITIONAL" (I.E., TRAFFIC-SENSITIVE) COSTS INCURRED TO**
112 **TRANSPORT AND TERMINATE TRAFFIC?**

113 A. No. Mr. Hendricks does not even mention the “additional cost” standard, or the
114 FCC's interpretation.

115 **Q. IS THE UNDISPUTED FACT THAT UNION'S COST STUDY IS NOT**
116 **LIMITED TO “ADDITIONAL” (I.E., TRAFFIC-SENSITIVE) COSTS A**
117 **MATERIAL VIOLATION OF THE ACT?**

118 A. Yes. It is a fundamental departure from the Act's requirements, and the
119 Commission could and should reject Union's cost study on that basis alone.

120 **Q. ARE THERE OTHER PROBLEMS WITH UNION'S COST STUDY, IN**
121 **ADDITION TO THE FACT THAT IT IS NOT LIMITED TO**
122 **“ADDITIONAL COSTS”?**

123 A. Yes. The Union cost study does not use Utah Commission approved inputs for
124 the forward-looking cost of capital and depreciation lives. Further, the level of
125 detail in the cost study is insufficient to prove that costs are forward-looking and

126 supported by efficient network design and technology. There is no supporting
127 documentation for switch investments, switch maintenance, transport investments,
128 or transport maintenance. The Union cost study even grows historical
129 maintenance expenses over time when associated investment remains level.
130 There are many more assumptions without any support or connection to Union
131 Cellular's current operations, such as the inclusion of cell sites not yet
132 constructed. Finally, the Union cost study misuses inputs in its formulas for
133 developing cost. All of these problems must be addressed and I discuss them
134 individually in my testimony in the section below concerning "Problems in the
135 Union Cost Study".

136 **Q. WHAT DOES THE FCC SAY SHOULD BE CONSIDERED WHEN AN**
137 **INTERCONNECTING PROVIDER BELIEVES ITS TRANSPORT AND**
138 **TERMINATION COST WILL BE GREATER THAN THE**
139 **INCUMBENT'S?**

140 A. The FCC addressed this question in its *Local Competition Order* at paragraph
141 1089:

142 [S]tate commissions must give full and fair effect to the economic costing
143 methodology we set forth in this order, and create a factual record,
144 including the cost study, sufficient for purposes of review after notice and
145 opportunity for the affected parties to participate. In the absence of such
146 cost study justifying a departure from the presumption of symmetrical
147 compensation, reciprocal compensation for the transport and termination
148 of traffic shall be based on the incumbent local exchange carrier's cost
149 studies.

150 In other words, the study must be a properly documented and constructed,
151 forward-looking study of efficiently configured and operated systems, and limited
152 to "additional costs."

153 **Q. WHAT IS THE UTAH COMMISSION'S DEFINITION OF TELRIC**
154 **COST?**

155 A. The Utah Commission has defined TELRIC methodology as producing an
156 estimate of what minimum costs any single efficient forward-looking provider
157 would incur to serve current demand.¹ The Commission further stated,
158 "...TERIC asks what is the lowest cost estimate for a declining cost provider to
159 self-provision a given element, assuming optimal size and design."² In this same
160 Report and Order the Commission found that inputs must be adjusted to reflect
161 the best practices available that result in a least-cost, most-efficient, forward-
162 looking network cost estimate. It is clear that the Union cost study falls far short
163 of the standards developed by the Utah Commission and the FCC rules.

¹ Docket No. 01-049-85, Report and Order, In the matter of the Determination of the Cost of the Unbundled Loop of Qwest Corporation, issued May 5, 2003 at page 4.

² IBID, page 5.

164 **Q. BEFORE DISCUSSING THE SPECIFIC PROBLEMS WITH THE UNION**
165 **CELLULAR COST STUDY, COULD YOU PLEASE PROVIDE A BRIEF**
166 **DESCRIPTION OF THE TELRIC RULES AND HOW THEY SHOULD BE**
167 **IMPLEMENTED IN A MODEL?**

168 A. The TELRIC rules call for the development of the cost of a hypothetical carrier
169 based on “the lowest cost network configuration” using ‘the most efficient
170 telecommunications technology currently available”. The “Long Run”
171 assumption in TELRIC does not refer to a period of time per se, but rather the
172 assumption that all costs, including capital costs, are variable. Essentially, the
173 TELRIC cost standard in this case represents the cost of totally replacing the
174 Union Cellular network using the lowest cost technology currently available in
175 the most efficient configuration to meet existing demand levels for service. In
176 addition, unlike the prices of network elements, for example, a cost study used for
177 the purpose of determining the rates for termination must be limited to
178 "additional" (i.e., "traffic-sensitive") costs, as I have explained.

179 The TELRIC costs should use a forward-looking cost of capital and forward-
180 looking depreciation rates, and a reasonable allocation of common costs. The
181 TELRIC study may not include any retail costs, opportunity costs, embedded
182 costs, or revenues to subsidize telecommunications service offerings other than
183 the element for which the rate is being established. In addition, for purposes of
184 termination, it may not include *any* non traffic-sensitive (i.e., fixed) costs, such as

185 costs that the carrier would incur for any facility or equipment that is used for any
186 purpose other than transport and termination of calls originated from Qwest
187 landline subscribers to Union Cellular's subscribers. Such other purposes would
188 include transport and routing of calls originated by Union Cellular's subscribers.

189 **IV. PROBLEMS IN THE UNION COST STUDY**

190 **Q. PLEASE DESCRIBE THE UNION COST STUDY.**

191 A. The Union cost study develops a cost per minute of use for both "switching" and
192 transport. The cost of the "switch" and cost of the transport are developed
193 differently. The cost of the "switch", according to Mr. Hendricks' testimony, is
194 based on Union's purchase price of a GSM switch in 2003. The cost study also
195 includes the cost of currently operating cell sites as well as cell sites planned for
196 future deployment as part of the "switch" cost. Neither the investments for the
197 switch itself nor the cell sites are supported by vendor invoice or contract
198 documentation. The cost study calculates the depreciation over the life of the
199 switch in the study, calculates a return on investment, income tax, and develops a
200 present value for the total capital cost of the switch. The income tax calculation
201 varies from those I have seen used in cost studies and does not yield the correct
202 tax amount. The cost study then adds maintenance and power costs for the switch
203 based on Union's radio system maintenance expense. Both the maintenance and
204 power expenses grow by three percent per year. Neither the power nor

205 maintenance expenses have supporting documentation. The study then adds
206 common cost using a 10 percent factor. The total switch cost is converted to a
207 unit cost by dividing the present value of the total switch cost by the present value
208 of the minutes of use.

209 The transport cost is not calculated in the same manner as the switch costs. The
210 transport cost is an undocumented “annual cost per T-1” times the number of T-1
211 facilities required to carry Qwest traffic to Union Cellular. The present value of
212 the total cost for the required T-1 facilities is divided by the present value of the
213 minutes of use to compute the unit cost of transport.

214 Additionally, the cost study does not use the cost of capital, an average of the cost
215 of equity and the cost of debt, in the return on investment calculation. Instead, the
216 higher cost of equity (11.25 percent) is used to calculate the return of investment.
217 The study uses a 10 year depreciation life for the switch investment.

218 **Q. HOW SHOULD THE TELRIC RULES APPLY TO THE UNION STUDY?**

219 A. Union included 100 percent of their current and future cell tower costs. This is
220 not appropriate. Cell towers are equivalent to the subscriber loop with integrated
221 digital loop carrier for landline customers. Recovery of loop costs and other such
222 non-traffic sensitive costs are excluded from reciprocal compensation rates. The
223 calls terminating to Union Cellular from Qwest do not cause Union Cellular to
224 place more cell sites or incur more cost for cell sites. Therefore, it is

225 inappropriate to include the \$38M in cell tower cost in the Union cost study
226 because doing so is in direct conflict with the FCC's definition of "additional
227 cost" described above.

228 The Utah Commission found in Docket No. 01-049-85, that switch costs should
229 be billed to wholesale customers in the same manner in which they are incurred
230 by the supplier.³ In Qwest's case, the Commission determined that basic
231 switching capacity and design for current demand is totally non-traffic sensitive.
232 This leads directly to the conclusion that there are no "additional costs" (i.e.
233 traffic sensitive costs) for switching. The data in Union's Cost Study support this
234 Utah Commission's finding. The Union Cost Study increases the switched
235 minutes of use (MOUs) by 34 percent over the ten year life of the switch. There
236 is no increase in switch investment during the ten year life. This leads one to
237 conclude that the Union switch, in fact, is not traffic sensitive.

238 **Q. HAVE YOU CHECKED THE DEFAULT INPUTS IN THE UNION COST**
239 **STUDY?**

240 A. Yes, I have examined the study inputs.

³ IBID, page 16.

241 **Q. ARE THERE DEFAULT INPUTS UTILIZED BY THE STUDY THAT**
242 **THE UTAH COMMISSION HAS ADOPTED AS FORWARD-LOOKING**
243 **INPUTS FOR USE IN TELRIC PROCEEDINGS?**

244 A. Yes, the Utah Commission adopted forward-looking input values in decisions in
245 the last TELRIC cost docket.⁴ The following inputs directly relate to the Union
246 cost study: cost of capital of 9.76 percent (41.7% debt, 58.3% equity, 7.33% cost
247 of debt, 11.50% cost of equity); switch depreciation life of 14.5 years; and tax rate
248 of 38.25 percent. Union has presented no evidence to justify variations from the
249 inputs that the Utah Commission has adopted for forward-looking studies.

250 **Q. WHAT INPUTS NEED TO BE VERIFIED WITH FURTHER**
251 **DOCUMENTATION?**

252 A. The switching investment, power expense and maintenance expense, as well as
253 the transport costs, are the main inputs that require verification by Union. Union
254 should provide that verification via contracts for switching gear. Maintenance
255 and power expenses should be verified by Union for the base year based on
256 Union's books of account. Transport costs should be verified based on books of
257 account as well. Once Union removes the cell site costs from its study
258 verification of those costs is not necessary. In short, Union's cost study has failed
259 to *prove* that their inputs are appropriate and therefore justify the necessity for an
260 asymmetrical rate.

⁴ Docket No. 01-049-85, Report and Order, issued May 5, 2003, and Final Order, issued July 25, 2003.

261 **Q. ARE THERE OTHER ISSUES CONCERNING THE SWITCHING AND**
262 **MAINTENANCE COSTS INCLUDED IN THE UNION COST STUDY**
263 **THAT REQUIRE ADDITIONAL VERIFICATION BEYOND WHAT IS**
264 **PROVIDED IN UNION WITNESS TESTIMONY?**

265 A. Yes. The reason additional verification is needed is that the data in the Union
266 Cost Study contradicts the description of the switching maintenance and
267 investment in Mr. Hendricks' testimony. The maintenance in the Union Cost
268 Study is listed as "Radio System Expense", which is the maintenance associated
269 with microwave systems, not switching systems. The switch investment tab in the
270 Union Cost Study has Part 32 account code labels for investments that sum to the
271 price of the GSM switch that Union Cellular installed in 2003 according to Mr.
272 Hendricks' testimony. However, the account codes that are listed next to the
273 switch investment in the Union Cost Study are for circuit equipment and general
274 purpose computers, not a digital switching account.

275 **Q. WOULD IT BE APPROPRIATE TO UTILIZE NON-SWITCHING**
276 **INVESTMENT OR RADIO SYSTEM EXPENSE TO DEVELOP AN**
277 **ASYMMETRICAL COMPENSATION RATE FOR CALL**
278 **TERMINATION?**

279 A. No. The FCC rules allow only the "additional cost" or traffic-sensitive cost of the
280 switch to be recovered in a call termination charge.

281 **Q. WHAT OTHER CONCERNS DO YOU HAVE WITH THE SWITCHING**
282 **INVESTMENT DATA?**

283 A. There is no data provided concerning the mobile switch capacity in terms of
284 minutes, busy hour minutes, cell towers or the number of handsets and/or
285 telephone numbers supported.⁵ More importantly, there is no data provided
286 concerning the amount of the switch capacity that is currently being utilized.
287 Additionally, GSM switches may be equipped with data functions for end user
288 services that are not related to the termination of a voice call from a Qwest end
289 user to a Union Cellular customer. Union Cellular offers text messaging service,
290 for example, that require such data related switch investments. It is unknown how
291 much of the switch and software investment included in the Union Cost Study is
292 associated with these services because Union has not provided any supporting
293 documentation. Union must provide vendor invoices with enough detail to
294 confirm that only the appropriate forward-looking minimum costs are included.

295 **Q. WHY ARE YOU CONCERNED ABOUT THE SWITCHING CAPACITY**
296 **AND ITS UTILIZATION?**

297 A. The TELRIC standard requires the modeling of an efficient network. If Union
298 purchased excessive switching capacity, the TELRIC standard does not allow
299 Union to recover the costs associated with unnecessarily installed switching
300 capacity in asymmetric compensation rates. In Docket No. 01-049-85, the Utah

⁵ Qwest has requested this information in its First Set of Data Requests dated October 18, 2005.

301 Commission adopted a switching utilization rate of 90 percent. If Union's switch
302 is operating at a lower level of utilization than 90 percent, Qwest should not be
303 required to pay the overstated rate associated with Union's inefficient switch
304 utilization.

305 **Q. DO YOU KNOW WHETHER UNION CELLULAR'S SWITCH IS NON-**
306 **TRAFFIC SENSITIVE OR JUST OPERATING AT A VERY LOW**
307 **UTILIZATION RATE?**

308 A. As I discussed earlier, based on the facts that Union Cost Model contains 34
309 percent growth in the MOU without any growth in switch investment leads one to
310 believe that the Union Cellular switch is 100 percent non-traffic sensitive and
311 there is no "additional cost". Another possibility is that the switch is traffic
312 sensitive but it is tremendously underutilized. If the switch is in fact
313 underutilized, the cost per minute calculations in the Union Cost Study must be
314 recalculated to reflect the 90 percent utilization rate ordered by the Utah
315 Commission.

316 **Q. IF THE SWITCH IS TRAFFIC SENSITIVE AND UNDERUTILIZED,**
317 **WHAT DO YOU ESTIMATE THE UTILIZATION TO BE?**

318 A. First, Union has the requirement to provide proof that the switch is not non-traffic
319 sensitive (i.e., that there are additional switch costs caused by Qwest traffic which
320 terminates to Union Cellular's subscribers). I could speculate as to Union

321 Cellular's current switch utilization. However, as I mentioned earlier, Qwest does
322 not have responses from Union concerning any cost-related data requests at the
323 time of drafting this testimony. Because Qwest's data requests asked specifically
324 for the GSM switch's capacity, I see no reason for such speculation at this point.

325 **Q. WHAT ARE YOUR CONCERNS WITH USING "RADIO SYSTEM**
326 **EXPENSE" FOR THE SWITCH?**

327 A. Using radio maintenance in place of switch maintenance is completely
328 inappropriate. Switch maintenance should be less than radio system maintenance
329 because switches are housed in a totally controlled environment, whereas radio
330 systems are often placed in the field, as well as the central office. Additionally,
331 no travel time to a site is required for switch maintenance, as it usually is for radio
332 systems.

333 **Q. DO YOU HAVE OTHER CONCERNS REGARDING HOW UNION**
334 **HANDLED SWITCH MAINTENANCE IN THE UNION COST STUDY?**

335 A. Yes. Union's study increases the switch maintenance expenses by three percent
336 per year. The maintenance expenses are initially related to investment. Since the
337 GSM switch investment is not growing, no increase in maintenance should occur.
338 In fact, as discussed above, the Utah Commission found that it is appropriate to
339 adjust inputs to reflect best practices available that result in a least cost, most-
340 efficient, forward-looking cost for a declining cost provider. Increases in

341 maintenance expenses are completely at odds with the Utah Commission findings.
342 In fact, using best practices should result in year-over-year maintenance cost
343 decreases. Other Commissions have found productivity levels of negative four
344 percent to be appropriate.⁶

345 **V. CORRECTIONS TO THE UNION COST STUDY**

346 **Q. CAN YOU CORRECT ANY OF THE DEFICIENCIES IN THE UNION**
347 **COST STUDY THAT YOU HAVE DISCUSSED ABOVE?**

348 A. I can correct for some of the deficiencies in the study, such as the following
349 inputs:

- 350 • Cost of capital
- 351 • Switch depreciation life
- 352 • Net productivity-inflation
- 353 • Tax rate
- 354 • Removing the improper inclusion of cell site investments and maintenance

355 However, I cannot correct for errors based on documentation that has not been
356 provided by Union Cellular, or verify the appropriateness of the investments or
357 expenses the cost study uses for switching and transport. I provide a corrected
358 version of Union's Cost Study, which I refer to as the Corrected Cost Study, as

⁶ Colorado Public Utilities Commission in Decision Nos. C02-409 and C02-636 in Docket No. 99A-577T.

359 Confidential Exhibit 3R.1. The Corrected Cost Study contains corrections for all
360 the deficiencies listed in this section.

361 **Q. ARE THERE ANY OTHER CORRECTIONS TO UNION’S COST STUDY**
362 **THAT NEED TO BE MADE?**

363 A. Yes, in addition to the corrections in the “Summary - Corrected” tab of the
364 Corrected Cost Study, one other adjustment needs to be made. The unit cost
365 needs to be adjusted to reflect the 90% utilization factor that the commission has
366 adopted, as I discussed above, rather than the unknown and unverified utilization
367 reflected in the unit cost on the “Summary - Corrected” tab. This adjustment can
368 be made if Union demonstrates that the GSM switch is traffic sensitive and, if so,
369 what the switch’s capacity is and how much of that capacity is being used
370 currently.⁷

371 **Q. WHAT INVESTMENTS ARE NOT APPROPRIATE TO INCLUDE IN A**
372 **TELRIC STUDY?**

373 A. It is unknown how much of the investment from which Union derives its switch
374 cost includes investments that are associated with the loop-like non-traffic
375 sensitive equipment, such as the Base Station Controller (BSC). As I discussed
376 above, cell towers are equivalent to subscriber loop plant and are non-traffic
377 sensitive. As such, they should be excluded from reciprocal compensation rates.

⁷ If Union cannot demonstrate that the switch is traffic sensitive, there is no need for a corrected cost study, because there would be no “additional cost” for the termination of a call from Qwest.

378 This is also the case for the BSCs. Both cell sites and BSCs are considered part of
379 the Base Station Subsystem. One or more cell sites are connected to a BSC which
380 is in turn connected to the GSM switch. As with cell sites, BSCs are analogous to
381 digital loop carrier systems. Furthermore, calls terminating to Union Cellular
382 from Qwest do not cause Union Cellular to place more BSCs. Therefore, it is
383 inappropriate to include BSC investment in Union's TELRIC cost study because
384 doing so is in direct conflict with the FCC's definition of "additional cost"
385 described above. Based on the lack of documentation that Union has provided, I
386 was unable to identify the investments that should be excluded.

387 **Q. ARE THERE OTHER INVESTMENTS THAT SHOULD BE EXCLUDED?**

388 A. Yes. Investments in equipment and software that have nothing to do with calls
389 made from Qwest's landline customers to Union's cellular customers should be
390 excluded. Not only is it intuitively wrong to charge Qwest for these investments,
391 but it violates the "additional cost" standard discussed above. While it is clear
392 that Union provides retail services which require such investments, it is not clear
393 that such investments are excluded from Union's Cost Study. There is no detail
394 cost backup to identify any of the switch sub-systems that should be included or
395 excluded.

396 **Q. WHAT ARE SOME EXAMPLES OF INVESTMENTS THAT ARE NOT**
397 **REQUIRED FOR CALLS MADE FROM QWEST TO UNION?**

398 A. GSM switch investment includes sub-systems and software that support Short
399 Message Service and GPRS. These investments are made to provide text
400 messaging. The Home Location Register (HLR) is a data base similar to Qwest's
401 Line Information Data Base. This data base is always accessed when a wireless
402 customer turns on his or her handset. However, it is only accessed when a call
403 from a Qwest landline terminates to a Union handset that is not on or is roaming.
404 The fact that some GSM investment in sub-systems and software can be clearly
405 identified as not appropriate suggests that there may very well be investment that
406 Union has included in its switching investment that should be removed.

407 **Q. HAVE YOU MADE ADJUSTMENTS IN THE CORRECTED COST**
408 **STUDY TO REMOVE INVESTMENTS THAT UNION MAY HAVE**
409 **INAPPROPRIATELY INCLUDED IN ITS SWITCH COST?**

410 A. No. I have not removed any investment associated with the Base Station
411 Controller, SMS, GPRS, or HLR, since Union has not yet provided any
412 documentation to clearly identify whether or not it has included these investments
413 and software in its switch investment.

414 **Q. WHAT ARE THE RESULTS OF YOUR REVISED STUDY?**

415 A. The results are a switch cost of \$0.00294 and a transport cost of \$0.00215 for a
416 total of \$0.00509 per MOU.

417 **Q. DO YOU HAVE ANY COMMENTS ABOUT THIS RESULTING COST OF**
418 **\$0.00509?**

419 A. Yes. The switch unit cost is high because Union has not provided sufficient detail
420 for me to identify all of the switch investments that should be removed as well as
421 the capacity and current utilization of the switch. The transport unit cost is high
422 because the MOU demand used to determine the transport costs appears to
423 include only those MOUs from Qwest to Union. In an efficient network, which
424 TELRIC requires, traffic in both directions would be carried on the same facility.
425 Although I did not make a correction for this, I would like to put on the record
426 that this correction is reasonable to consider - especially if it were to make a big
427 difference in the unit cost.

428 **Q. GIVEN THE FAILURE OF UNION TO LIMIT ITS COST STUDY TO**
429 **ADDITIONAL (I.E., TRAFFIC-SENSITIVE) COSTS, AND ALL THE**
430 **UNDOCUMENTED SWITCH AND TRANSPORT INVESTMENT AND**
431 **EXPENSES THAT REMAIN IN THE CORRECTED COST STUDY,**
432 **WHAT IS YOUR RECOMMENDATION FOR THE TRANSPORT AND**
433 **TERMINATION RATES?**

434 A. It is clear that the cost study Union filed does not provide proof, as required by
435 the FCC rules and the Utah Commission decisions, to support an asymmetrical
436 rate. Even in the Corrected Cost Study there remains uncertainty surrounding the
437 switching and transport investments and expenses due to Union's lack of
438 documentation. Finally, there is no adjustment to correct the study to reflect the
439 Commission ordered switch fill factor (utilization). On these grounds alone there
440 is not sufficient information on the record upon which to base an asymmetrical
441 rate. Further, based on the fact that the Corrected Cost Study produces rates
442 similar to Qwest's rates, I recommend that the Union cost study be rejected and
443 that Union Cellular be required to use the Qwest reciprocal compensation rates.

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

445 A. Yes.