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BEFORE THE ARIZONA CORPORATION COMMISSION

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**COMMISSIONERS**

JEFF HATCH-MILLER – Chairman  
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2006 JUL -5 P 4:41

AZ CORP COMMISSION  
DOCUMENT CONTROL

IN THE MATTER OF THE COMPLAINT OF  
MCLEODUSA TELECOMMUNICATIONS  
SERVICES, INC. AGAINST QWEST  
CORPORATION.

)  
) DOCKET NO. T-03276<sup>67</sup>A-06-0105  
) DOCKET NO. T-01051B-06-0105  
)

**NOTICE OF FILING**

Please take notice that McLeodUSA Telecommunications Services, Inc. is filing the Public Version of the Direct Testimony of Michael Starkey, Sidney L. Morrison and Tami J. Spocogee, a copy of which is attached. A Confidential Version of the testimony of Sidney L. Morrison will be provided to those parties who have signed a protective agreement in this docket.

RESPECTFULLY SUBMITTED this 5<sup>th</sup> day of July 2006.

ROSHKA DEWULF & PATTEN, PLC

By

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Original and 15 copies of the foregoing filed this 5<sup>th</sup> day of July 2006 with:

Docket Control  
Arizona Corporation Commission  
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1 Copy of the foregoing hand-delivered/mailed  
this 5<sup>th</sup> day of July 2006 to:

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26  
27 By Mary Appolito

**BEFORE THE ARIZONA CORPORATION COMMISSION**

IN THE MATTER OF:	)	Docket No. T-03267A-06-0105
	)	Docket No. T-01051B-06-0105
McLEODUSA	)	
TELECOMMUNICATIONS	)	
SERVICES, INC.,	)	
Complainant,	)	
v.	)	
QWEST CORPORATION,	)	
Respondent.	)	

**REBUTTAL TESTIMONY**

**OF**

**SIDNEY MORRISON**

On behalf of

**McLeodUSA Telecommunications Services, Inc.**

**PUBLIC VERSION**

July 5, 2006

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- Exhibit SLM-4: Qwest Technical Publication 77386
- Exhibit SLM-5: Qwest Technical Publication 77368
- Exhibit SLM-6: Qwest Response to McLeodUSA DR No. 3-8
- Exhibit SLM-7: Qwest Response to McLeodUSA DR No. 3-5

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**I. INTRODUCTION AND QUALIFICATIONS**

**Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND OCCUPATION.**

A. My name is Sidney L Morrison. My business address is 550 Sunset Lakes Boulevard SW, Sunset Beach, North Carolina 28468-4900. I am currently employed by QSI Consulting, Inc. (QSI) as a Senior Consultant and the Firm's Chief Engineer.

**Q. ARE YOU THE SAME SIDNEY MORRISON WHO FILED DIRECT TESTIMONY IN THIS PROCEEDING ON MAY 12, 2006?**

A. Yes.

**Q. ON WHOSE BEHALF IS YOUR REBUTTAL TESTIMONY BEING SUBMITTED?**

A. McLeodUSA Telecommunications Services, Inc. (hereafter "McLeodUSA").

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

A. My rebuttal testimony addresses the response testimony of Qwest Corporation's ("Qwest's") point witness on engineering issues, Curtis Ashton,<sup>1</sup> filed on June 22, 2006.

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<sup>1</sup> Response Testimony of Curtis Ashton on behalf of Qwest Communications, Arizona Docket Nos. T-03267A-06-0105/T-01051B-06-0105, June 22, 2006 ("Ashton Response").

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**II. RESPONSE TO QWEST WITNESS CURTIS ASHTON**

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**Q. HAVE YOU REVIEWED THE RESPONSE TESTIMONY OF QWEST WITNESS  
CURTIS ASHTON?**

24

25

A. Yes. Mr. Ashton is Qwest's point witness on central office power engineering and  
design.

26

27

28

A. Qwest's testimony is inconsistent with its engineering guidelines and  
Technical Publications, which, contrary to Qwest's claims, apply to  
collocated CLECs

29

30

31

32

**Q. WHAT IS THE PRIMARY DISAGREEMENT BETWEEN YOU AND MR.  
ASHTON?**

33

34

A. Mr. Ashton testifies that Qwest sizes the shared DC power plant of the central office  
(e.g., batteries, rectifiers, generators) for Qwest's equipment based on List 1 drain, while  
at the same time sizing DC power plant for McLeodUSA (and other CLEC) equipment  
based on the size of its power cable orders (or a higher List 2 drain).<sup>2</sup> I contend that DC  
power plant is (or should be) sized by Qwest based on the total List 1 drain (or peak  
"busy hour" usage under normal operating conditions) of all equipment powered by the  
DC power plant in the central office.

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**Q. PLEASE ELABORATE ON HOW MR. ASHTON'S ASSERTION THAT QWEST  
MUST SIZE DC POWER PLANT FOR CLECS BASED ON POWER CABLE**

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<sup>2</sup> Ashton Response, page 4, line 16 – page 5, line 3.

44 **ORDERS CONFLICTS WITH QWEST'S POWER ENGINEERING MANUALS**  
45 **AND REQUIREMENTS.**

46 A. Mr. Ashton's assertion that Qwest sizes DC power plant for CLECs based on the size of  
47 their power feeder cables (what Qwest interprets to be List 2 drain)<sup>3</sup> directly conflicts  
48 with the following excerpt taken verbatim from Bellcore technical document "Power  
49 Systems Installation Planning" BR-790-100-652, wherein it describes the power study  
50 procedure used for sizing DC power plant: \*\*\*BEGIN CONFIDENTIAL [REDACTED]

51 [REDACTED]  
52 [REDACTED]  
53 [REDACTED]  
54 [REDACTED]  
55 [REDACTED] **END CONFIDENTIAL\*\*\*** This language

56 shows that DC power plant is not properly sized based on List 2 drain of any power user,  
57 as Mr. Ashton claims, but on List 1 drain of all equipment in the central office. There are  
58 numerous additional inconsistencies between Mr. Ashton's claims and Qwest's  
59 engineering manuals, Technical Publications and requirements as shown by my direct  
60 testimony at pages 31 – 35.

61  
62 **Q. DID MR. ASHTON ATTEMPT TO RESPOND TO THESE INCONSISTENCIES?**

63 A. Not really. Though I pointed to no fewer than 5 engineering manuals used by Qwest to  
64 size and engineer DC power plant in central offices that refute Qwest's testimony, Mr.

<sup>3</sup> "Qwest uses the ordered amount to size the power plant capacity made available to CLECs" and "Qwest assumes that the order is based on List 2 Drain." Ashton Response, page 5, lines 2-3 and page 4, lines 18-19, respectively.



65 Ashton's only response is that these Qwest engineering manuals do not apply to CLECs.<sup>4</sup>  
66 However, Mr. Ashton is wrong.

67  
68 **Q. DID MR. ASHTON OFFER ANY QWEST OR BELLCORE TECHNICAL**  
69 **PUBLICATIONS THAT HE SAYS DOES APPLY TO CLEC COLLOCATIONS?**

70 A. No, Mr. Ashton simply says the engineering manuals I refer to do not apply to CLEC  
71 power usage in a Qwest central office. Given that the Qwest Technical Publications I  
72 rely on are dated as recently as 2006, when CLECs power consumption in a Qwest  
73 central office is a given, I find difficult to believe that Qwest would not have any  
74 publication addressing sizing of DC power plant with respect to CLEC power usage, and  
75 use a procedure (*i.e.*, List 2 drain) dramatically removed from its own technical manuals  
76 without any revised documentation whatsoever. If, as Qwest claims elsewhere, CLEC  
77 usage of DC power has such an impact on Qwest that it allegedly plans for CLEC power  
78 usage differently than its publications otherwise state, I cannot fathom that Qwest would  
79 not have another Technical Publication so stating. I think the fact that Qwest has never  
80 produced such a document speaks volumes about its recent claim that the publications  
81 that do exist, which support the position of McLeodUSA, do not apply to CLECs. I think  
82 it is also important to note that Mr. Ashton's claim was never made in Qwest's Iowa or  
83 Utah pre-filed testimony but appears to be an evolving claim without any supporting  
84 documentation.

85  
86 **Q. WHY DO YOU BELIEVE THAT THESE ENGINEERING GUIDELINES AND**  
87 **TECHNICAL PUBLICATIONS APPLY TO COLLOCATED CLECS?**

---

<sup>4</sup> Ashton Response, page 10, line 23-page 11, line 2.

88 A. Because Qwest's own Technical Publications say so. For instance, page 1-6 of Qwest  
89 Technical Publication 77386 entitled "Interconnection and Collocation for Transport and  
90 Switched Unbundled Network Elements and Finished Services" (provided as Exhibit  
91 SLM-4) states:

92 **1.6 General Requirements**

93 All equipment (IDE) installed by an Interconnector in a Qwest Wire  
94 Center must comply with the requirements of the National Electric  
95 Code®. The IDE must also comply with the with Bellcore Network  
96 Equipment Building System (NEBS) Level 1 safety standards, GR-63-  
97 CORE, *NEBS Requirements: Physical Protection*, and GR-1089-CORE,  
98 *Electromagnetic Compatibility and Electrical Safety - Generic Criteria*  
99 *for Network Telecommunications Equipment*. Requirements for fiber  
100 optic cables are provided in GR-20-CORE, *Generic Requirements for*  
101 *Optical Fiber and Fiber Optic Cable*.

102 *The following publications will also apply for collocation:*

- 103 • PUB 77350, Central Office Telecommunications
- 104 Equipment Installation and Removal Guidelines
- 105 • PUB 77351, Qwest Communications, Inc. Engineering
- 106 Standards (three modules)
- 107 • PUB 77355, Grounding-Central Office and Remote
- 108 Equipment Environment
- 109 • ***PUB 77385, Power Equipment and Engineering***
- 110 ***Standards.***

111 *Appropriate sections of the publications must be followed when*  
112 *collocating equipment in a Qwest wire center.* (emphasis added)  
113  
114  
115

116 Similarly, at page 4-4, this document states: "General requirements for power and  
117 grounding installation of Physical Collocation are covered in PUB 77350 and Chapter 8  
118 of PUB 77385."

119  
120 **Q. QWEST TECHNICAL PUBLICATION 77386 STATES THAT TECHNICAL**  
121 **PUBLICATIONS 77350 AND 77385 APPLY TO COLLOCATION. DID YOU**

122           **POINT TO EITHER OF THESE DOCUMENTS IN YOUR DIRECT**  
123           **TESTIMONY?**

124           A.     Yes. I discussed Technical Publication 77385 at page 32 of my direct testimony.  
125           Specifically I explained that Section 2 entitled "*DC Power Plants and Chargers*" of  
126           Technical Publication 77385 states:

127                     **2.4 Engineering Guidelines**

128                     When sizing power plants, the following criteria shall be used:

129                     **List 1** drain is used for sizing batteries and chargers; the average busy-  
130                     hour current at normal operating voltage should be used. Telephony List  
131                     1 drains are measured at 9 ccs or at 18 ccs for the first 2 hours of a  
132                     discharge and 6 ccs thereafter.

133                     **List 2** drain is used for sizing feeder cables, circuit breakers, and fuses;  
134                     the current that is required for projected peak under worst operating  
135                     conditions should be used. Telephony List 2 drains are measured at 36  
136                     ccs at -42.75 V for a nominal -48 VDC plant.  
137  
138  
139

140           Based on these clear statements that the technical publications contemplate collocations  
141           (and yet still require sizing on a List 1 drain basis), there can be no doubt that these  
142           Qwest Technical Publications and engineering guidelines cited in my direct testimony  
143           (which refute Mr. Ashton's unsubstantiated statements regarding power plant sizing for  
144           collocators) do apply to collocated CLECs.

145  
146           **Q.     WOULD YOU EXPECT THESE ENGINEERING GUIDELINES TO**  
147           **SPECIFICALLY IDENTIFY POWER USERS WHEN DISCUSSING HOW**  
148           **POWER PLANT IS SIZED?**

149           A.     No. Power plant is based on the aggregate List 1 drain of the central office, and is  
150           therefore, sized to serve *loads* and not *carriers*. It is interesting to note that these  
151           Technical Publications do not specify sizing power plant for Qwest's equipment either.

152 So following Mr. Ashton's logic, these publications would not apply to sizing the power  
153 plant for Qwest's equipment either. Of course, since these guidelines address loads  
154 drawn by equipment regardless of equipment ownership, it makes perfect sense that  
155 neither Qwest nor CLECs are specifically mentioned in the publication. That merely  
156 confirms the concept that the power plant is a shared resource amongst all power users in  
157 the central office and that power is indiscriminately available to all users, and it makes  
158 not a bit of difference in sizing that plant which particular user of power is creating the  
159 load on the plant for purposes of sizing it.

160

161 **Q. IS MR. ASHTON CORRECT WHEN HE CLAIMS THAT QWEST DOES NOT**  
162 **VIOLATE ITS TECHNICAL PUBLICATIONS BY ALLEGEDLY SIZING**  
163 **POWER PLANT FOR CLECS DIFFERENTLY THAN DEFINED IN THE**  
164 **PUBLICATIONS?<sup>5</sup>**

165 A. No, I disagree with Mr. Ashton on this point. I have demonstrated above that these  
166 guidelines do, in fact, apply to CLECs, so the premise of Mr. Ashton's argument is  
167 flawed. Further, Qwest has updated its manuals since CLECs began collocating in its  
168 central office, and has had ample opportunity to modify any engineering manuals to  
169 reflect any changes needed in a multiple-carrier environment, but it has not done so,  
170 which means that changes of this type are not needed. Finally, neither Mr. Ashton nor  
171 Qwest has been able to supply any documentation which would guide Qwest's engineers  
172 in sizing DC power plant for collocators in the manner Mr. Ashton describes.

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<sup>5</sup> Ashton Response, pages 10-11.

174 Q. DOES QWEST SPECIFICALLY IDENTIFY COLLOCATED CLECS  
175 WITHIN ITS INTERNAL POWER PLANT DOCUMENTATION?

176 A. No, and this undermines Mr. Ashton's suggestion that the power planning guidelines  
177 should single out CLECs in order for them to apply to CLECs. Qwest freely admitted  
178 that it does not identify collocators in its "Common Planning Documents," which it uses  
179 to identify and explain the need for central office power plant augments, as well as  
180 estimate the cost of such augments. The following Q&A with Qwest witness Hubbard  
181 from Iowa makes this point clear:

182 Q. Does it surprise you that McLeod is not mentioned by name?

183 A. It doesn't surprise me at all.

184 Q. Why not?

185 A. It just doesn't surprise me. We don't mention the collocators in  
186 these orders.

187 Q. Does the common planning or common planning process require  
188 a list of the collocators by name to be provided on the common  
189 funding or common planning documents?

190 A. No, not at all.<sup>6</sup>

191

192 This admission is important because if Qwest does not identify collocated CLECs in the  
193 common funding documents used to size power plant in a particular central office, why  
194 would these collocated CLECs be identified in Qwest's Technical Publications? The  
195 answer is that they wouldn't because power plant is sized based on *loads* and not  
196 *carriers*, as evidenced by Qwest's own common funding documents.

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<sup>6</sup> Iowa transcript, pages 650 – 651.

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**B. Qwest has List 1 drain information for McLeodUSA in every instance, so Qwest's claim that it must size DC power plant to List 2 drain for CLECs due to un-forecasted usage is false**

202

**Q. MR. ASHTON CLAIMS THAT THE DIFFERENCE IN THE WAY QWEST SIZES DC POWER PLANT FOR MCLEODUSA'S EQUIPMENT VERSUS QWEST'S EQUIPMENT IS REASONABLE BECAUSE "QWEST DOES NOT KNOW, AND CANNOT REASONABLY FORECAST, THE DRAW THAT CLEC EQUIPMENT WILL TAKE, SO QWEST USES THE ORDERED AMOUNT TO SIZE THE DC POWER PLANT CAPACITY MADE AVAILABLE TO CLECS."<sup>7</sup> IS HE CORRECT?**

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**Q. WHY IS THIS ISSUE IMPORTANT?**

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**A. Qwest admits to treating CLECs differently than itself in the provisioning of power by sizing power plant for its own equipment on List 1 drain, while allegedly sizing for CLEC equipment based on a higher List 2 drain. Qwest attempts to justify this different**

<sup>7</sup> Ashton Response, page 4, lines 1-3.

221 treatment (which results in higher power charges for McLeodUSA) by claiming that  
222 Qwest has no idea what to expect in terms of CLEC power draw. However, Qwest's own  
223 written testimony, oral testimony, Qwest's engineering manuals, as well as a Technical  
224 Publication written by Qwest's witness in this case, belie Qwest's claims in this regard.

225

226 **Q. MR. ASHTON EXPLAINS THAT QWEST CANNOT SIZE POWER PLANT FOR**  
227 **CLEC EQUIPMENT BASED ON LIST 1 DRAIN LIKE QWEST DOES FOR ITS**  
228 **OWN EQUIPMENT<sup>8</sup> BECAUSE IT DOES NOT KNOW MCLEODUSA'S LIST 1**  
229 **DRAIN. IS THIS TRUE?**

230 A. No. Qwest has sufficient information to size power plant for CLECs based on List 1  
231 drain in every instance.

232

233 **Q. IS THERE A SOURCE YOU CAN POINT TO THAT SUPPORTS YOUR**  
234 **CONTENTION THAT QWEST HAS SUFFICIENT INFORMATION TO SIZE**  
235 **POWER PLANT FOR CLECS BASED ON LIST 1 DRAIN IN EVERY**  
236 **INSTANCE?**

237 A. Yes, a Qwest Technical Publication authored by Qwest witness Mr. Ashton. I have  
238 attached to my testimony as Exhibit SLM-5 pertinent portions of Qwest Technical  
239 Publication #77368 Issue E, dated March 2006, which states at page 4-3:

240 Average heat release information is given by the vendors. If this cannot  
241 be obtained, it can be estimated from List 1 (average) power drains given  
242 by the equipment vendors...Sometimes the vendors will only give List 2  
243 (peak) power drains. **A rough estimate of List 1 drain is 30 – 40% of**  
244 **the List 2 drain.**

245

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<sup>8</sup> Mr. Ashton testified in Utah that "Because we happen to know the List 1 drain. In our documents, as Mr. Morrison pointed out over and over, we said we should engineer to the List 1 drain. So because we know it, we engineer to it." Utah transcript, page 315, lines 3 – 6.

246 Q. PLEASE EXPLAIN IN MORE DETAIL HOW QWEST COULD DETERMINE  
247 LIST 1 DRAIN FOR MCLEODUSA IN ALL INSTANCES.

248 A. Qwest testifies that it considers the McLeodUSA power cable order to be List 2 drain,  
249 which means that Qwest has McLeodUSA's List 2 for each one of McLeodUSA's  
250 collocations. And we know from Technical Publication 77368 that List 1 drain can be  
251 estimated at 30-40% of List 2 drain. So, to the extent that Qwest does not have list 1  
252 drain from the manufacturer, Qwest could size the power plant at 30-40% of the  
253 McLeodUSA power cable order to size roughly at List 1 drain. For example, if  
254 McLeodUSA submitted a power cable order for 175 amps, Qwest's technical publication  
255 states that List 1 drain can be estimated to be between 53 and 70 Amps. If McLeodUSA  
256 submitted order for a 300 amp cable, Qwest's technical publication says that List 1 drain  
257 could be estimated at between 90 and 120 Amps. Hence, Mr. Ashton's claim that Qwest  
258 must size power plant to List 2 drain for McLeodUSA because Qwest does not have the  
259 List 1 drain is simply false.

260  
261 Q. YOU STATE ABOVE THAT MR. ASHTON AUTHORED QWEST TECHNICAL  
262 PUBLICATION 77368 WHICH EXPLAINS THE LIST 1 DRAIN ESTIMATION  
263 CALCULATION. HOW DO YOU KNOW MR. ASHTON AUTHORED THIS  
264 DOCUMENT?

265 A. Because when this document was introduced as a cross-exhibit in the Utah hearings, Mr.  
266 Ashton testified that "I'm the author."<sup>9</sup> Qwest also acknowledged that Mr. Ashton  
267 authored this Technical Publication in response to McLeodUSA DR No. 3-3.<sup>10</sup>

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<sup>9</sup> Utah transcript, page 317, line 3.

268

269 Q. DOES ANY OTHER QWEST ENGINEERING MANUAL SHOW THAT QWEST  
270 CAN DETERMINE LIST 1 DRAIN FOR MCLEODUSA IN EVERY INSTANCE?

271 A. Yes. REGN 790-100-656RG, Issue 3, May 1997, pages 3-4, Section 2.1 "Determining  
272 Drains" states as follows:

273 \*\*\*BEGIN CONFIDENTIAL

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END CONFIDENTIAL\*\*\*

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The above excerpt, first of all, shows that Qwest can calculate List 1 drain in all instances  
282 by simply dividing the List 2 drain of McLeodUSA by \*\*\*BEGIN CONFIDENTIAL

283

END CONFIDENTIAL\*\*\* (which is consistent with the estimation calculation set  
284 out in Technical Publication 77368). Or, if McLeodUSA ordered a 100 amp power cable,

285

Qwest could estimate the List 1 drain at \*\*\*BEGIN CONFIDENTIAL END  
286 CONFIDENTIAL\*\*\*. In addition, this excerpt shows that Qwest has an obligation to

287

obtain List 1 drain when sizing power plant [\*\*\*BEGIN CONFIDENTIAL

288

END

289

CONFIDENTIAL\*\*\*]. So, despite Qwest's complaint that McLeodUSA is asking

290

Qwest to engineer for McLeodUSA,<sup>11</sup> Qwest's own Technical Publication requires Qwest

291

to make every effort to obtain List 1 drain so that it can properly size its power plant (that

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<sup>10</sup> McLeodUSA DR No. 3-3: "Q. Please provide a list of all Qwest Technical Publications Mr. Ashton has authored, co-authored, or were authored under his direction." Qwest Response: "Tech Pubs 77368 and 77355, both of which are available at Qwest's public website (qwest.com/techpub)."

<sup>11</sup> Ashton Response, page 13, lines 7 - 9.

292 is, if Qwest does not already have this information in its possession, which it would in  
293 many instances).

294

295 **Q. HAS QWEST ADMITTED UNDER CROSS EXAMINATION THAT LIST 1**  
296 **DRAIN CAN BE CALCULATED FROM LIST 2 DRAIN?**

297 A. Yes. Mr. Ashton admitted this under cross examination in Utah. The following excerpt  
298 from the Utah transcript demonstrates this point:<sup>12</sup>

299 A. "A rough estimate of List 1 drains is 30 – 40 percent of the List 2  
300 drain."

301 Q. So in the rare event that the manufacturer does not provide List 1  
302 drains, could Qwest develop a List 1 drain based on the List 2  
303 drain using this type of a formula?

304 A. Qwest could roughly estimate a List 1 drain. As it says, roughly.  
305

306 Furthermore, in the companion Iowa complaint case, Qwest witness Robert  
307 Hubbard (who was replaced by Mr. Ashton as Qwest's point witness on engineering  
308 issues) freely admitted that List 1 drain can be calculated from List 2 drain. One such  
309 admission is found at page 648 of the Iowa transcript, wherein Mr. Hubbard testified that,  
310 "[t]he office is designed on a total, like I said, on around a List 1 drain. Basically, it's 40  
311 to 70 percent of the List 2 drain, so it's around the List 1 drain." Again, at page 637,  
312 lines 3 – 7 of the Iowa transcript, Qwest witness Mr. Hubbard testified: "[t]he List 1 drain  
313 is the basis for the design of the total central office, so you've got engineering judgment  
314 in there too, which gives it between 40 to 70 percent of a List 2 drain, so it's around the  
315 List 1 drain, correct."

316

---

<sup>12</sup> Utah transcript, page 318, lines 5 – 11.

317 **Q. DO YOU HAVE INFORMATION DEMONSTRATING THAT QWEST**  
318 **ACTUALLY DOES HAVE IN ITS POSSESSION LIST 1 DRAIN INFORMATION**  
319 **FOR MCLEODUSA AND OTHER CLECS?**

320 A. Yes. Qwest developed a form to inventory the fuses and breakers in the BDFB and  
321 Power Boards in its central office. This is known as the Form 841 "BDFB or Power  
322 Board Panel Fuse/Breaker Assignment Record." Qwest's Form 841 is shown below:



327 This form shows that Qwest lists the specific equipment and relay rack fed by the  
328 BDFB/Power Board fuse/breaker. For each piece of this equipment, Qwest lists: (1) Fuse  
329 or Breaker Size, (2) Mfg L-2 Drain, (3) Mfg L-1 Drain, and (4) Actual Load. The "Mfg  
330 L-1 Drain" is List 1 drain, which means that this form shows that Qwest has specific List  
331 1 drain information about all equipment fed by its power boards and BDFBs.

332

333 **Q. FORM 841 DOES NOT IDENTIFY EQUIPMENT BY OWNER, HOW DO YOU**  
334 **KNOW CLEC EQUIPMENT IS INCLUDED ON THIS FORM?**

335 A. Because Qwest has admitted that this form would include both Qwest and CLEC  
336 equipment. Due to the seeming inconsistency between Qwest's claim that it does not  
337 have the List 1 drain information for CLEC equipment, and Form 841 that has slots for  
338 entries of the List 1 drains for all equipment, McLeodUSA issued data request number 3-  
339 8 in order to clarify the matter. I have included Qwest's response to DR. No. 3-8 as  
340 Exhibit SLM-6. As shown in subpart (a), McLeodUSA asked Qwest "whether the Form  
341 841 includes the telecommunications equipment of both Qwest and CLECs," to which  
342 Qwest responded, "Yes. If used, it would include that equipment." Furthermore, Form  
343 841 is an attachment to Qwest Technical Publication 77385 (see, Chapter 15 Turn Up,  
344 Test and Acceptance Procedures), and as mentioned above, Qwest Technical Publication  
345 77386 states that Technical Publication 77385 applies to collocated CLECs.

346

347 **Q. DID QWEST EXPLAIN HOW IT GETS THE LIST 1 DRAIN INFORMATION**  
348 **TO POPULATE THE FORM 841?**

349 A. Yes. In response to McLeodUSA's question as to how Qwest obtains List 1 drain for this  
350 form (DR. No. 3-8(b)), Qwest responded as follows: "Qwest obtains L-1 drain

351 information shown on this form based [sic] by applying engineering judgment to  
352 information obtained from the manufacturer, information from actual experience with the  
353 equipment, and information obtained from lab testing.” In short, Qwest has admitted that  
354 it has List 1 drain information for McLeodUSA and other CLEC equipment and that it  
355 obtains this information from various sources.

356

357 **Q. IS THERE OTHER INFORMATION ABOUT FORM 841 THAT IS WORTH**  
358 **NOTING?**

359 A. Yes. Note that on Form 841, the only columns of data that are totaled are “Mfg L-1  
360 Drain” and “Actual Load,” which means that the sum totals of these two categories are  
361 important to Qwest’s engineers, while the sum totals of other columns are apparently  
362 unimportant. As I explain in my testimony, Qwest engineers monitor the aggregate (or  
363 sum total) power usage of the central office and size based on the aggregate (or sum total)  
364 List 1 drain, and the information in the “totaled” columns would provide this information.  
365 If aggregate List 2 drain (at least for CLECs) was used to size power plant, as Mr. Ashton  
366 contends, one would expect that Qwest would also total the “Mfg- L-2 Drain” column.  
367 The fact that Qwest does not total this column, however, suggests that this aggregate List  
368 2 drain is of no engineering value to Qwest.

369

370 **Q. DO YOU HAVE OTHER INFORMATION SHOWING THAT QWEST HAS LIST**  
371 **1 DRAIN INFORMATION FOR MCLEODUSA’S EQUIPMENT?**

372 A. Yes. Mr. Ashton testified in Utah that it would indeed have the List 1 drain information  
373 for McLeodUSA equipment that Qwest also uses in its network.<sup>13</sup>

374

375 **Q. IF QWEST SIZED POWER PLANT BASED ON MCLEODUSA'S ESTIMATED**  
376 **LIST 1 DRAIN, WOULD THAT PROVIDE MCLEODUSA WITH THE POWER**  
377 **IT NEEDS?**

378 A. Yes. To the extent that Qwest needed to estimate List 1 drain, Qwest would estimate List  
379 1 drain around 40% of List 2 drain. Mr. Ashton's exhibit CA-1 shows that sizing  
380 Qwest's DC power plant at 40% of McLeodUSA's power cable orders would provide  
381 McLeodUSA with the power it needs (compare 40% of column 4 entitled "What McLeod  
382 has ordered" to column 7 entitled "Current Measurement in amps").<sup>14</sup>

383

384 **Q. YOU HAVE PROVIDED NUMEROUS SOURCES ABOVE SHOWING THAT**  
385 **QWEST HAS LIST 1 DRAIN INFORMATION FOR MCLEODUSA AND OTHER**  
386 **CLECS. HAS QWEST STATED THAT IT WOULD SIZE POWER PLANT FOR**  
387 **CLECS BASED ON LIST 1 DRAIN INFORMATION IF IT HAD LIST 1 DRAIN**  
388 **INFORMATION?**

389 A. Yes. Mr. Ashton testified in Utah that if Qwest had List 1 drain information for  
390 McLeodUSA it would size the power plant to this List 1 drain like it does for Qwest's  
391 equipment. This statement can be found at page 319 of the Utah transcript, the pertinent  
392 excerpt provided below:

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<sup>13</sup> During cross-examination in Utah, McLeodUSA counsel asked Mr. Ashton: "So does Qwest, then, know the List 1 drains of those pieces of equipment?" Mr. Ashton responded, "Yes, we do. I don't know them off the top of my head right now." Utah transcript page 315, line 11 – page 316, line 1.

<sup>14</sup> All power usage is below 40% of the capacity of the ordered power cables.

- 393 Q. I believe you also discussed with Ms. Anderl the collocation  
394 application that is attached as an exhibit to Mr. Starkey's  
395 surrebuttal testimony. Do you recall that discussion?  
396 A. Yes.  
397 Q. And I believe you were discussing the fact that nowhere on that  
398 application is there a category or a question for the List 1 drain  
399 of the CLEC collocated equipment; is that correct?  
400 A. That is correct.  
401 Q. Why doesn't Qwest ask for that information?  
402 A. I have no idea. I didn't develop the form so I don't know.  
403 Q. As a power plant engineer, is that the type of information that  
404 you would want to know?  
405 A. That would be nice to have.  
406 Q. And if you had that information, would you design the power  
407 plants to the List 1 drain of the CLEC's collocated equipment?  
408 A. Yes.  
409

410 And again, at page 315 of the Utah transcript, Mr. Ashton was asked, "So if you know  
411 the List 1 drain of the CLEC's equipment, should you engineer the power plant to the  
412 List 1 drain of the CLEC's equipment?", to which Mr. Ashton responded, "I would agree  
413 with that statement, yes."  
414

415 Given the substantial information I provide showing Qwest *does* have List 1 drain  
416 information for McLeodUSA, and given Qwest's commitment to size power plant for  
417 CLECs based on List 1 drain so long as it has the information, Qwest's continued  
418 insistence that it must size power plant for CLECs' equipment on List 2 drain is  
419 unreasonable.  
420

421 **C. Qwest has a significant amount of additional information available to it for**  
422 **planning purposes**  
423

424 **Q. MR. ASHTON CLAIMS THAT THERE IS ALSO ENGINEERING JUDGMENT**  
425 **INVOLVED IN SIZING POWER PLANT. DOES QWEST HAVE OTHER**

426           **INFORMATION AVAILABLE TO IT BESIDES THE LIST 1 DRAIN IF QWEST,**  
427           **IN FACT, APPLIES ENGINEERING JUDGMENT?**

428           A.     Yes. To the extent that Qwest applies engineering judgment when sizing power plant as  
429           Qwest claims, this engineering judgment certainly would not lead to Qwest sizing the  
430           power plant to the size of CLEC power cables, primarily because reasoned engineering  
431           judgment would not call for sizing the power plant based on a power capacity that a  
432           CLEC would not draw, or at best, would only draw in the rarest of circumstances (and  
433           one does not engineer power plant to catastrophic events). Qwest has many years of  
434           experience in designing DC power plants within central offices and knows full well to  
435           expect nothing close to the full capacity of the CLEC power cables in terms of CLEC  
436           usage.

437  
438           **Q.     WHAT OTHER INFORMATION IS AVAILABLE TO QWEST?**

439           A.     As explained in my direct testimony, Qwest has a host of information at its disposal to  
440           appropriately plan for the total power draw that will be demanded of the central office  
441           DC power plant.<sup>15</sup> Qwest has, among other things, the specific amount and type of  
442           equipment, a CLEC's forecast of circuits by type, drain information about the equipment,  
443           and actual power draw measurements. Indeed, Qwest must pre-approve all equipment  
444           that gets collocated in its central offices, and therefore, Qwest is (or should be) familiar  
445           with all equipment in its central office. Mr. Ashton's claim that Qwest's power engineers  
446           have only one piece of data (*i.e.*, the power cable order of the CLEC) and is blind to all of  
447           this other information at Qwest's disposal when sizing DC power plant is simply not  
448           plausible.

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<sup>15</sup> Morrison Direct, pages 39 – 40.

449

450 Q. MR. ASHTON PROVIDED CONFIDENTIAL EXHIBIT CA-1 WHICH SHOWS  
451 THE ORDERED AMPERAGE OF THE POWER CABLES SERVING  
452 MCLEODUSA'S COLLOCATIONS IN ARIZONA AS WELL AS THE  
453 MEASURED USAGE FOR THESE COLLOCATIONS. DOES THIS EXHIBIT  
454 ILLUSTRATE THE PROBLEM WITH QWEST'S PURPORTED DC POWER  
455 PLANT ENGINEERING PRACTICES FOR CLECS AND THE MANNER IN  
456 WHICH QWEST APPLIES THE POWER PLANT CHARGE?

457 A. Yes. This exhibit shows that, on average, McLeodUSA's power usage is \*\*\*BEGIN  
458 CONFIDENTIAL [REDACTED] END CONFIDENTIAL\*\*\* of the amperage associated with  
459 McLeodUSA's order for power cables. Or, in other words, the "as ordered" amount  
460 exceeds the "as consumed" amount by more than \*\*\*BEGIN CONFIDENTIAL [REDACTED]  
461 [REDACTED] END CONFIDENTIAL\*\*\*. Given Qwest's claim that it builds DC power plant  
462 based on CLEC power cable orders, and its application of the Power Plant rate on an "as  
463 ordered" basis, Exhibit CA-1 shows that Qwest's position will lead to significant over-  
464 sizing of DC power plant facilities in the central office (if in fact Qwest built its power  
465 plant to accommodate every CLEC's cable distribution order) and much higher Power  
466 Plant charges for McLeodUSA and other CLECs.

467 Importantly, there are both engineering reasons and business reasons for CLECs  
468 ordering power cables that are capable of carrying much larger amounts of power than  
469 the power they will actually consume.<sup>16</sup> And since McLeodUSA pays Qwest for these  
470 power cables when ordered, Qwest is not harmed by this engineering practice.

<sup>16</sup> This is a point that is apparently agreed to by Mr. Ashton. When Mr. Ashton adopted Mr. Hubbard's testimony in the companion Utah docket, Mr. Ashton adopted all substantive portions of Mr. Hubbard's pre-filed testimony *except* Mr. Hubbard's claim that "there is no engineering reason why McLeod could not add power cables incrementally as it adds equipment in its collocation

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**Q. DOES EXHIBIT CA-1 FURTHER UNDERMINE QWEST'S CLAIM THAT IT MUST SIZE DC POWER PLANT BASED ON CLEC POWER CABLE ORDERS BECAUSE QWEST WOULD ALLEGEDLY HAVE NO IDEA WHAT TO EXPECT WITH REGARD TO MCLEODUSA'S POWER USAGE?**

A. Yes. I am representing McLeodUSA in complaints against Qwest regarding its application of the Power Plant charge in Arizona, as well as Iowa, Utah and Washington. Qwest has provided exhibits similar to Arizona Exhibit CA-1 showing "as ordered" and "as consumed" data for McLeodUSA in all of these states. After reviewing this data across states, a general trend is evident. In general, I am observing that, based on Qwest's own measurements, Qwest could expect McLeodUSA to actually consume anywhere from between about **\*\*\*BEGIN CONFIDENTIAL [REDACTED] END CONFIDENTIAL\*\*\*** of the ordered amperage of its power cables. I should note that these numbers are general across states and are specific to McLeodUSA.<sup>17</sup> Following Mr. Ashton's logic, we would have to believe that Qwest power engineers simply ignore this data showing "across the board" and significant differences between the ordered amperage of the power cables and the power consumed when sizing DC power plant and, instead, blindly add additional DC power plant equipment to accommodate CLEC orders for power cables – or, in the alternative, rely on power plant capacity already available and just bill McLeodUSA and other CLECs as if this investment was made. Such actions

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sites." See, Rebuttal Testimony of Curtis Ashton, UT Docket 06-2249-01, page 2, explaining that he does not adopt Mr. Hubbard's testimony at page 14, lines 12 - 14. The fact that Mr. Ashton did not agree with this statement suggests that Mr. Ashton believes that there are engineering reasons why McLeod cannot add power cables incrementally.

<sup>17</sup> I should also note that I am not endorsing this data be used by Qwest to size DC power plant. The purpose of this data is to show that Mr. Ashton's claim that Qwest must size DC power plant for CLECs based on CLEC power cables orders (or List 2 drain) because it would have no idea what to expect in terms of CLEC power usage, is factually inaccurate.

491 on Qwest's part would not be prudent or consistent with its engineering manuals, and  
492 counsel informs me that such actions would constitute unreasonable discrimination in  
493 Qwest's provisioning of collocation. Though I am not suggesting that Qwest should use  
494 this McLeodUSA data as an engineering standard, I *am* saying that Qwest's claim that it  
495 does not know what to expect with regard to McLeodUSA's power draw is not supported  
496 by the facts, as McLeodUSA's power usage data (which Qwest measures itself) will  
497 consistently fall well below the amperage of the power cables (by design). This trend  
498 holds true regardless of state or central office. And since telecommunications equipment  
499 consumes power in a similar manner regardless of carrier, and all carriers are required to  
500 size power cables to the higher List 2 drain based on safety standards, I would expect to  
501 see similar trends for other CLECs as well as Qwest.<sup>18</sup>

502

503 **Q. MR. ASHTON TESTIFIES THAT "A CAREFUL READING" OF YOUR**  
504 **TESTIMONY SHOWS THAT MCLEODUSA ONLY PROVIDES A**  
505 **DESCRIPTION OF THE EQUIPMENT MCLEODUSA WILL COLLOCATE IN**  
506 **THE COLLOCATION ORDER, AND NOT INFORMATION REGARDING**  
507 **POWER DRAWS (PAGE 13, LINES 12-14). WOULD YOU LIKE TO**  
508 **COMMENT?**

509 **A.** Yes. First, it is not my testimony that the collocation application form contains  
510 information about actual McLeodUSA power *draws* as Mr. Ashton insinuates – and for  
511 good reason: Qwest's collocation application does not ask for this information. However,

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<sup>18</sup> Qwest has to date refused to provide information on the sizes of its power cables or power draws so that these comparisons can be made. However, Qwest's power engineering manuals require power cables to be sized based on List 2 drain and power plant to be sized based on List 1 drain regardless of the carrier served. Hence, all carriers will exhibit this same characteristic of their power cable capacity being significantly larger than their power draws.

512 the information that is provided regarding type and amount of equipment (including  
513 model numbers)<sup>19</sup> as well as expected circuits supported by type, is sufficient for Qwest  
514 to determine the List 1 drain as well as whether the expected load of this equipment at the  
515 expected utilization would necessitate an augment in the shared DC power plant, which  
516 may or may not already be nearing the augment threshold based on the total power usage  
517 of all existing power users in the central office (including Qwest). And the information  
518 that is available to Qwest is certainly sufficient for Qwest to determine that  
519 McLeodUSA's power usage will not come anywhere near the List 2 drain associated with  
520 McLeodUSA's power cables.

521 Furthermore, as indicated in Mr. Ashton's Confidential Exhibit CA-1, Qwest  
522 obviously knows the actual power draw of McLeodUSA by collocation, and measures  
523 this usage per the terms of the *Power Measuring Amendment* periodically. Therefore,  
524 whether or not the collocation application contains actual power draw information, Qwest  
525 knows this information as evidenced by Qwest's own exhibit, and Qwest will, over time,  
526 observe power usage at the busy hour for the entire central office to ensure that the  
527 central office's shared DC power plant is capable of handling this peak load.

528 In short, there is no conceivable way McLeodUSA's power draw could increase  
529 to a level that would even register within the context of the total List 1 drain of the central  
530 office.

531  
532 **Q. DOES QWEST ALSO CLAIM THAT IT DOES NOT HAVE SUFFICIENT TIME**  
533 **TO "ENGINEER" TO LIST 1 DRAIN FOR CLECS?**

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<sup>19</sup> With the vendor and model number of telecommunications equipment, a host of technical specification information is available about the equipment, including, oftentimes, the List 1 drain.

534 A. Yes. In the Washington hearing, I heard Mr. Ashton testify that since Qwest has to  
535 provision a collocation within 90 days of receiving a CLEC's application, Qwest did not  
536 have adequate time to gather List 1 Drain information for the CLEC's equipment. I find  
537 that excuse self-serving. Qwest controls the information it asks for on its collocation  
538 application form. If Qwest asked the CLEC to provide List 1 Drain on the form, then the  
539 clock for installing the collocation would not start to run until the information was  
540 provided. Thus, Qwest appears to be justifying charging CLECs an unreasonable amount  
541 for collocation power by its sheer refusal to ask for information that its own technical  
542 manuals instruct it to have to properly size DC Power Plant.

543

544 **Q. YOU STATE ABOVE THAT THERE IS NO CONCEIVABLE WAY**  
545 **MCLEODUSA'S POWER DRAW COULD INCREASE TO A LEVEL THAT**  
546 **WOULD EVEN REGISTER WITHIN THE CONTEXT OF THE TOTAL POWER**  
547 **PLANT CAPACITY OF THE CENTRAL OFFICE (AGGREGATE LIST 1**  
548 **DRAIN). HOW CAN YOU BE SO SURE?**

549 A. Because the data shows that McLeodUSA's power usage represents a miniscule portion  
550 of the power plant capacity. I compared the McLeodUSA power draw measurements  
551 from column 7 of Mr. Ashton's Confidential Exhibit CA-1 for the four central offices  
552 with the largest McLeodUSA power draw<sup>20</sup> to the total central office power plant  
553 capacities for those offices provided by Qwest in response McLeodUSA DR No. 8S2  
554 (dated 5/8/06). This comparison shows that McLeodUSA's power usage as a percentage  
555 of total central office power plant capacity for these offices is as follows: **\*\*\*BEGIN**  
556 **CONFIDENTIAL** [REDACTED]

<sup>20</sup> Those central offices are PHNXAZGR, PHNXAZMA, MESAAZGI, TEMPAZMA.



577 Q. MR. ASHTON CLAIMS THAT, "IN QWEST'S EXPERIENCE WITH MCLEOD,  
578 SOME OF THIS EQUIPMENT IS EQUIPMENT THAT QWEST IS NOT  
579 FAMILIAR WITH."<sup>22</sup> WOULD YOU LIKE TO COMMENT?

580 A. Yes. Mr. Ashton provides no details regarding his claim, and therefore, I cannot address  
581 his purported concerns with specificity. However, in hearings in Utah, Mr. Ashton  
582 clarified his criticism by pointing out some equipment that McLeodUSA uses that is not  
583 used by Qwest to serve its own customers, and claiming that Qwest was unfamiliar with  
584 these pieces of equipment and would not know what to expect in terms of List I drain. I  
585 disagree.

586 Contrary to Mr. Ashton's claim, Qwest would not be unfamiliar with any  
587 equipment in its central office, as evidenced by the fact that collocators list every piece of  
588 collocated equipment on the collocation application form they submit to Qwest, as well  
589 as the Form 841 which shows that Qwest lists the List I drain for this equipment. In  
590 addition, this equipment is required to be on a Qwest-approved list of equipment before it  
591 can even be collocated. In fact, Section 8.4.1.5 of Qwest Arizona's SGAT states that

592 CLEC shall submit a Collocation Application to order Collocation at a  
593 particular Qwest Premises. A Collocation Application shall be  
594 considered complete, if it contains:

595 f) Collocated equipment and technical equipment specifications  
596 (Manufacturer Make, Model No., Functionality i.e., Cross  
597 Connect, DLC, DSLAM, Transmission, Switch, etc., Physical  
598 Dimensions, Quantity). (NOTE: Packet or circuit switching  
599 equipment requires, in writing and attached to the Application,  
600 how this equipment is necessary for access to UNEs or  
601 Interconnection. High level equipment interface or connectivity  
602 schematic for equipment that is not on the approved equipment  
603 list or has not been used by CLEC for a similar purpose before,  
604 must also accompany this Application. CLEC using approved  
605 equipment found at  
606 [www.qwest.com/wholesale/pcat/collocation.html](http://www.qwest.com/wholesale/pcat/collocation.html) need not  
607 comply with this provision);

<sup>22</sup> Ashton Response, page 13, lines 15-16.

608

609

Obviously, Qwest would be familiar with equipment that it put on its own approved

610

equipment list for collocation. If a piece of equipment is not on this approved list,

611

CLECs must provide Qwest with additional information for the purposes of familiarizing

612

Qwest with the equipment.

613

Furthermore, just because Qwest does not use the equipment itself does not mean

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that Qwest is unfamiliar with it or cannot easily derive a reasonable approximation or

615

actual List 1 drain requirement. As explained above in the quotes of Qwest's engineering

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manuals, List 1 drain may be available through NEBS, from the equipment vendors,<sup>23</sup> lab

617

testing, or the estimation procedures Mr. Ashton himself discussed in his paper. Qwest

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engineers must obtain this information for its own equipment, and there should be no less

619

of an obligation to obtain it for the CLEC equipment since it is responsible for providing

620

CLECs non-discriminatory access to power.

621

622

**Q. DO YOU EXPECT QWEST TO PROJECT MCLEODUSA'S POWER USAGE IF**

623

**MCLEODUSA ITSELF CANNOT DO SO, AS MR. ASHTON CLAIMS?<sup>24</sup>**

624

**A.** No, this is not my testimony. However, I do expect Qwest to properly size power

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systems in its central office – including adhering to its own engineering manuals and

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good engineering practices – and this would require sizing DC power plant based on the

627

aggregate List 1 drain of the central office.

<sup>23</sup> Mr. Ashton admitted under cross examination in Utah that List 1 drain information is available from equipment vendors. The following is the relevant excerpt from the Utah transcript (page 317, lines 11 – 16): “Q. First let me ask you do manufacturers provide List 1 drains for the equipment that they provide? A. Oftentimes it has to be extracted at the price of a pound of flesh, but usually it can be obtained, eventually.”

<sup>24</sup> Ashton Response, page 13, lines 21-22.

628                    Though I have shown that Qwest does have adequate information to size power  
629                    plant for McLeodUSA on List 1 drain, assuming for the sake of argument that Qwest was  
630                    unsure what to expect in terms of McLeodUSA's List 1 drain requirement, Qwest's own  
631                    Technical Publications indicate that it is Qwest's obligation to find out. Qwest could do a  
632                    number of things in this regard from checking with vendors, relying on  
633                    experience/knowledge, calling McLeodUSA, or requesting this information on its  
634                    collocation application form. And if there was a key piece of information that Qwest  
635                    needed from CLECs in order to properly size its power plant in a nondiscriminatory  
636                    fashion, it would only be prudent for Qwest to request this information on the CLEC  
637                    collocation application, along with the myriad other information the application requests  
638                    for the purposes of engineering the central office power system. A discussion of what  
639                    Qwest should do if it does not have List 1 drain information for McLeodUSA is truly  
640                    academic, however, given that Qwest does, in fact, have this information and agreed to  
641                    size power plant for McLeodUSA based on List 1 drain so long as Qwest had the List 1  
642                    drain information.

643

644                    **Q.    ARE YOU SAYING THAT QWEST REALLY DOESN'T NEED TO KNOW AT**  
645                    **THE OUTSET WHAT MCLEODUSA'S BUSINESS PLAN/FORECAST IS OR**  
646                    **WHEN ITS EQUIPMENT WILL BE FULLY CARDED, AS MR. ASHTON**  
647                    **INSINUATES?<sup>25</sup>**

648                    A.    Yes, that is what I am saying. First, Mr. Starkey explains that McLeodUSA does indeed  
649                    provide forecasts for circuits to Qwest, and amends those forecasts if need be. Hence,  
650                    Qwest does have a good idea of McLeodUSA's business plan/forecast and when (or,

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<sup>25</sup> Ashton Response, page 8, lines 9-13. See also, Ashton Response, page 5, lines 17-20 and Ashton Response page 11, lines 23-24.

651 maybe more appropriately, if) McLeodUSA's equipment will be fully carded in the  
652 future. The idea that Qwest must have detailed forecasts is simply a red herring.  
653 Because power usage of one carrier will result in a decline of another carrier's power  
654 usage, the List 1 drain of the central office, which accounts for all usage fluctuations  
655 arising from changes in all power users' business plans and equipment utilization, is the  
656 best tool to size power plant.

657

658 **D. McLeodUSA is not over-sizing its power distribution cables, as Mr. Ashton**  
659 **claims, and, if anything, it is Qwest who is over-sizing facilities within the**  
660 **DC power system**  
661

662 **Q. HAS MR. ASHTON PORTRAYED MCLEODUSA'S CABLE ORDERS AS**  
663 **OVERSIZED?**

664 A. Yes. As recently as the evidentiary hearing in Washington state, Mr. Ashton  
665 characterized McLeodUSA's order for power cables as over-sized. I explained in detail  
666 in my direct testimony why these cable orders are not over-sized. Rather, the cable  
667 orders were properly sized based on engineering and safety standards and ultimate  
668 demand.<sup>26</sup>

669

670 **Q. HAS MR. ASHTON ADMITTED THAT ANY OVERSIZING IN POWER**  
671 **SYSTEM FACILITIES IS ATTRIBUTED TO QWEST'S – NOT MCLEODUSA'S**  
672 **– POOR PLANNING?**

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<sup>26</sup> See, e.g., Morrison Direct, pages 20 – 24.

673 A. Yes. Mr. Ashton has indicated in other states that it was Qwest who over-sized power  
674 system facilities based on poor planning. For instance, Mr. Ashton testified as follows in  
675 Washington:

676 *Qwest had to assume* that McLeod was ordering power based on their  
677 assumption that McLeod was going to serve a lot of customers and have  
678 a high degree of utilization of their equipment. *This has not proven to*  
679 *be a correct assumption...*<sup>27</sup>

680 As discussed above, such an assumption on Qwest's part would have been a  
681  
682 critical mistake and it is hard for me to believe, based on my experience as a central  
683 office engineer, that Qwest would have made such an assumption – especially given that  
684 Qwest has List 1 drain information for McLeodUSA equipment as well as all the other  
685 information I discussed for power planning purposes.

686

687 **Q. MR. ASHTON ALLEGES THAT YOUR TESTIMONY ABOUT CLECS SIZING**  
688 **POWER CABLES TO ULTIMATE DEMAND IS TRUE BUT IRRELEVANT**  
689 **(PAGE 8, LINES 7-8). WOULD YOU LIKE TO COMMENT?**

690 A. The reason that this is relevant is that Qwest is assessing the Power Plant charge on this  
691 larger power cable capacity, despite McLeodUSA's usage not coming close to this  
692 capacity level.

693 I have detailed many legitimate reasons why McLeodUSA and CLECs order  
694 power cables that are much larger than their actual usage is (or may ever be). As such,  
695 Qwest's implication that McLeodUSA orders power cables based on List 2 drain and  
696 then expects Qwest to make this List 2 drain available to McLeodUSA is misleading.  
697 What McLeodUSA actually does is order power cables for ultimate demand based on

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<sup>27</sup> Response Testimony of Curtis Ashton, Washington Utilities and Transportation Commission, Docket UT-063013, June 14, 2006, page 16, lines 9 – 11. See also, page 5, lines 12 – 14.

698 engineering and safety requirements. Qwest has produced nothing to date that shows  
699 McLeodUSA or another CLEC considers its order for the distribution cable size to be the  
700 same as an order for DC power plant “capacity.” And for Qwest’s rationale for sizing  
701 power plant for CLECs based on List 2 drain to make sense, all CLECs would need to  
702 draw the List 2 drain associated with their power cables at the same time, and, assuming  
703 Qwest is monitoring its power plant correctly, this would not happen.

704

705 **Q. SHOULD QWEST BE INDIFFERENT IF MCLEODUSA ORDERS A 175 AMP**  
706 **CABLE VERSUS A 250 AMP CABLE, FOR EXAMPLE?**

707 A. Yes, Qwest should be indifferent both in terms of power plant investment and cost  
708 recovery. Regarding cost recovery, Mr. Starkey explains that the power distribution  
709 investment and installation costs are recovered through a separate set of nonrecurring and  
710 recurring charges, with higher charges for larger cables. Hence, McLeodUSA’s power  
711 cables – regardless of size – are “bought and paid for” by McLeodUSA through separate  
712 charges and it should make no difference to Qwest what size of cables Qwest orders.

713 Regarding power plant investment, Qwest should be indifferent because  
714 regardless of the size of the cable order (*e.g.*, 175 or 250 amp), Qwest will use the busy  
715 hour usage for the entire central office, including the power delivered over those cables to  
716 the McLeodUSA collocation, to size the power plant. Therefore, if McLeodUSA ordered  
717 a 175 amp cable to one collocation and a 250 amp cable to another collocation, but only  
718 draws 40 amps over each cable at the busy hour/busy day, Qwest would size the power  
719 plant to accommodate the 40 amps in both instances.

720

721 Q. DOES THE FACT THAT THERE WAS NO USAGE TO TAKE INTO ACCOUNT  
722 WHEN MCLEODUSA ORIGINALLY ORDERED ITS POWER CABLES MEAN  
723 THAT QWEST SHOULD HAVE BUILT ITS DC POWER PLANT TO  
724 ACCOMMODATE THE AMPERAGE ASSOCIATED WITH MCLEODUSA'S  
725 POWER ORDER?<sup>28</sup>

726 A. No. Indeed, the fact that there was no usage associated with McLeodUSA's order for a  
727 175 amp power cable, for instance, exposes the folly of Qwest building 175 amps of DC  
728 power plant to accommodate this power cable order. A more appropriate way in which to  
729 address this situation, and the way Qwest's engineering manuals require this situation to  
730 be handled (as well as the manner in which Qwest admittedly sizes DC power plant for  
731 its own equipment) is for Qwest to monitor the total List 1 drain of the central office and  
732 ensure that its DC power plant can accommodate this peak usage level. Following  
733 Qwest's logic, McLeodUSA could order power cables (which it would pay for through  
734 separate nonrecurring and recurring charges), never draw 1 Amp of power, but Qwest  
735 would purportedly<sup>29</sup> build 175 amps of DC power plant capacity and would definitely  
736 begin billing McLeodUSA \$1,881.25 (175 x \$10.75) in monthly charges associated with  
737 the Power Plant charge.

738

739 E. McLeodUSA is not attempting to avoid paying for DC power plant that was  
740 built by Qwest for McLeodUSA's use  
741

<sup>28</sup> Ashton Response, page 10, lines 14-18.

<sup>29</sup> I use the word "purportedly" here because if Qwest is adhering to its engineering guidelines, it would not build 175 amps of power plant capacity.

742 Q. IS MCLEODUSA ATTEMPTING TO AVOID PAYING FOR DC POWER PLANT  
743 CAPACITY MADE AVAILABLE TO IT BY QWEST, AS MR. ASHTON  
744 CLAIMS?

745 A. No. The following excerpt from Mr. Ashton's response testimony summarizes the major  
746 flaws in Mr. Ashton's reasoning:

747 McLeod seems to want to have the originally ordered amount of power  
748 still available to them but to reduce their Power Plant charges so that  
749 they pay for much less capacity than is available to them.<sup>30</sup>  
750

751 Since the term "originally ordered amount of power" is actually the "originally ordered  
752 amount of power [*associated with power cables*]," this excerpt shows that Mr. Ashton's  
753 testimony and his assertion related to stranded investment is based on the flawed premise  
754 that McLeodUSA (or other CLEC) power cable orders trigger Qwest investment in DC  
755 power plant (or, in other words, Qwest sizes DC power plant for CLECs based on List 2  
756 drain). I have thoroughly explained that this is not the case and such a view is  
757 contradictory to Qwest's own engineering Technical Publications. Moreover, Mr.  
758 Ashton's position rests on the flawed assumption that Qwest somehow "partitions" (or  
759 dedicates) certain capacity within its DC power plant to accommodate McLeodUSA's  
760 equipment, individually. This is simply not the case. Rather, the DC power plant is  
761 shared by all powered equipment in the office, and Qwest does not, and should not,  
762 implement such a DC power plant "partitioning" to serve McLeodUSA, Qwest, or any  
763 other power user.

764  
765 Q. DOES MCLEODUSA ORDER POWER PLANT CAPACITY FROM QWEST AS  
766 MR. ASHTON STATES?<sup>31</sup>

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<sup>30</sup> Ashton Response, page 15, lines 17-20.

767 A. No. These are orders for power cables, not power plant capacity.

768

769 **Q. HAS QWEST ADMITTED THAT THE CLEC DOES NOT REQUEST A**  
770 **CERTAIN AMOUNT OF DC POWER PLANT CAPACITY?**

771 A. Yes. When discussing the collocation application and the information that is requested  
772 on that form, Qwest witness Mr. Hubbard testified in Iowa, "I would agree that there is  
773 nowhere on here to show that Qwest will provide a capacity to McLeod. What we size is  
774 to what they've ordered."<sup>32</sup> What this means is that McLeodUSA does not request and  
775 Qwest does not provide specific power plant capacity, as Qwest claims in this case.

776

777 **Q. MR. ASHTON TESTIFIES AT PAGES 9-10 OF HIS RESPONSE TESTIMONY**  
778 **THAT DC POWER PLANT IS NOT CONSUMED IN THE SAME WAY POWER**  
779 **ITSELF IS CONSUMED. IS HIS TESTIMONY HELPFUL?**

780 A. No. Mr. Ashton's testimony essentially states the obvious when he explains that power  
781 plant consists of pieces of equipment that are not "consumed" like a unit of power  
782 (Ashton Response, page 9, lines 10-12). In fact, I explained the pieces of equipment in  
783 the power plant in my direct testimony.

784

785 **Q. WHAT DO YOU THINK IS THE POINT OF MR. ASHTON'S TESTIMONY IN**  
786 **THIS REGARD?**

787 A. Mr. Ashton is apparently attempting to distinguish between the pieces of equipment that  
788 convert AC power to DC power from the actual power converted by the power plant in

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<sup>31</sup> Ashton Response, page 6, lines 3-9. See also, Easton Response, page 22, line 16 and page 23, line 5.

<sup>32</sup> Iowa transcript, page 626, lines 2 - 4.

789 order to support Qwest's differing application of the rates for each. But this attempt falls  
790 short. As I explained in my direct testimony, power plant is sized (and costs are incurred)  
791 based on busy hour *usage* for the entire central office. So, the capacity of the power plant  
792 (or the amount of the power plant equipment) is defined by the usage of all users, and as  
793 Mr. Starkey explains, each carrier should reasonably pay for its proportionate share of the  
794 costs incurred to construct that power plant to serve that busy hour draw. Or, in other  
795 words, given that usage drives investment in shared power plant equipment, Qwest  
796 should recover that investment based on the respective share of each CLEC's usage that  
797 draws from that power plant investment – or the capacity used to convert the DC power  
798 each carrier uses. Mr. Starkey addresses cost recovery and cost causation issues in his  
799 testimony.

800

801 **Q. IS THERE ANOTHER PROBLEM WITH THIS PORTION OF MR. ASHTON'S**  
802 **TESTIMONY?**

803 A. Yes. It highlights yet another inconsistency in Qwest's testimony. At page 9, lines 12-  
804 14, Mr. Ashton agrees with me that "power plant capacity is shared among the several  
805 users of power in a central office..." Then at page 9, lines 16-19, Mr. Ashton states that,  
806 "[f]or any particular power user, the question is whether there is sufficient capacity in the  
807 power plant available to convert and deliver the electric current its telecommunications  
808 equipment will eventually consume." If the power plant is sized for all power users, as  
809 Mr. Ashton admits, then "the question" is *not* whether there is sufficient capacity to serve  
810 "any particular power user", but whether there is sufficient capacity, to serve all power  
811 users in the central office. By focusing on a "particular power user," Mr. Ashton implies

812 that power plant is reserved or dedicated for a particular power user, which is simply not  
813 true.

814 Furthermore, Mr. Ashton's testimony is problematic in that he suggests that  
815 power plant is sized based on the current the carrier's equipment "will eventually  
816 consume." This is another example of where Mr. Ashton confuses the sizing of power  
817 plant (which is sized on the estimated current that all carriers' equipment will consume at  
818 the busy hour) with power distribution (which *is* sized based on the current that carriers'  
819 may or may not eventually consume).

820

821 **F. Mr. Ashton's disaster scenario wherein all CLECs need the List 2 drain**  
822 **associated with their power cables Is extremely far-fetched and does not**  
823 **support Qwest's notion of sizing DC power plant based on the amperage of**  
824 **CLEC power cable orders**

825

826 **Q. MR. ASHTON DISCUSSES A "LIST 2 EVENT" (ASHTON RESPONSE, PAGE 6).**  
827 **IS MR. ASHTON'S DESCRIPTION OF A LIST 2 EVENT MISLEADING?**

828 **A.** Yes. What Mr. Ashton describes is a situation wherein all power sources to the central  
829 office have been cut and all equipment loses power. Mr. Ashton implies that in this  
830 situation, the power draw associated with turn-up (once AC power is restored) results in a  
831 simultaneous List 2 drain event for all carries except Qwest – or a situation where CLECs  
832 will draw the amount of power associated with the maximum capacity of their power  
833 cables all at the same time. However, Qwest's example is not based in reality because it  
834 has been unable to provide an example of a situation where this has actually happened,  
835 and for good reason: it has likely never happened if Qwest is properly monitoring the  
836 power plant in its central office.

837

838 Q. PLEASE ELABORATE.

839 A. Mr. Ashton's very extreme example is far-fetched and suggests that Qwest must engineer  
840 its central office DC power plant to accommodate any conceivable situation, which is not  
841 the case. Mr. Ashton assumes that Qwest has a complete power failure within a central  
842 office and that the batteries are fully discharged, leading to a total power loss to all  
843 equipment in the central office.<sup>33</sup> This would mean that, for whatever reason, Qwest  
844 chose not to (or was unable to) keep the backup AC generation unit operating,<sup>34</sup> and the  
845 commercial power was not restored before the batteries fully discharged. However, Mr.  
846 Ashton provides no reason why Qwest's backup AC generation would not be used, even  
847 though the backup generation (*i.e.*, a diesel engine) could power the telecommunications  
848 equipment throughout a central office so long as Qwest poured diesel fuel into it  
849 (regardless of when the commercial AC power was restored). This assumption is  
850 especially unreasonable when one considers that Qwest would be testing its backup AC  
851 generation engine on at least a monthly basis to ensure that it would work properly when  
852 called upon to power the central office load. Simply put, backup generation is used by  
853 Qwest to avoid the situation Mr. Ashton describes.

854

855 Q. IS IT REASONABLE TO ASSUME THAT A BACKUP GENERATOR COULD  
856 NOT BE REFUELED, AS MR. ASHTON'S EXAMPLE DOES?<sup>35</sup>

---

<sup>33</sup> Ashton Response, page 6, lines 3-5.

<sup>34</sup> Mr. Ashton testifies, "[f]or a time, a diesel engine would be supplying additional backup power for the batteries." However, Mr. Ashton never explains why the diesel engine would only be used "for a time" when it could conceivably be used indefinitely, and would certainly be used by Qwest until commercial AC power is restored.

<sup>35</sup> Ashton Response, page 6, lines 8-9.

857 A. No. This highlights the unreasonableness of a complete power failure in Qwest's central  
858 offices. Qwest acknowledges that, on average, a backup generator has sufficient fuel to  
859 power the central office load for 27 hours.<sup>36</sup> And the fuel tank could be refueled as many  
860 times as necessary to continue powering the central office until commercial AC is  
861 restored.

862

863 **Q. IF WE ASSUME FOR THE SAKE OF ARGUMENT THAT THE CENTRAL**  
864 **OFFICE POWER DID LOSE BOTH COMMERCIAL AND BACKUP AC**  
865 **GENERATION AND ALL EQUIPMENT LOST POWER. WOULD ALL CLECS**  
866 **DRAW LIST 2 DRAIN ASSOCIATED WITH THEIR POWER CABLES AT**  
867 **START UP?**

868 A. No. Even if we assume for the sake of argument that this disaster scenario actually  
869 happened, Qwest would stagger the restarting of equipment in the central office such that  
870 not all equipment comes online at once and any power draw surges associated with restart  
871 is spread over time. Qwest would accomplish this by pulling breakers or fuses such that  
872 not all equipment in the central office turns up at the same time. The point being: there  
873 will be no situation where the power plant of a central office will need to provide List 2  
874 drain of all CLECs' power cables in the central office at the same time, and therefore,  
875 there is no need to size power plant to the capacity Qwest claims it does (*i.e.*, List 2 drain  
876 of CLEC power cables).

877

878 **Q. HAS QWEST BEEN ABLE TO PROVIDE A REAL WORLD EXAMPLE OF A**  
879 **CENTRAL OFFICE TOTALLY LOSING POWER AND CLECS NEEDING LIST**

---

<sup>36</sup> Source: Qwest response to McLeodUSA Dr No. 3-10(c).

880 **2 DRAIN AT THE SAME TIME, AS MR. ASHTON'S DISASTER SCENARIO**

881 **ASSUMES?**

882 A. No. Qwest has been unable to provide an example of this happening anywhere. In  
883 response to Iowa Chairperson Norris' question "In Iowa plants, have you ever  
884 experienced a List 2 drain by everyone all at once?", Qwest's response was as follows:

885 In the Iowa plants? No, I'm not – I really don't know the answer to that  
886 question. I mean if you look at BellSouth with the Hurricane Katrina,  
887 they had catastrophic events I believe in about 12 central offices, so it  
888 does happen.<sup>37</sup>  
889

890 Hence, while Qwest claims that it sizes power plant for CLECs based on a disaster  
891 scenario, it has been unable to provide even one example of it occurring in Qwest central  
892 offices. And if Qwest is managing power in its central office correctly, it will not  
893 happen.

894

895 **Q. IS QWEST'S REFERENCE TO HURRICANE KATRINA TELLING?**

896 A. Yes. The only example that Qwest has been able to provide anywhere that supposedly  
897 supports the sizing of power plant to CLEC power cable orders is Hurricane Katrina,  
898 wherein according to Qwest, "BellSouth...had catastrophic events...in about 12 central  
899 offices." First of all, Qwest did not provide any evidence that these BellSouth central  
900 offices completely lost power, which is the only way in which Qwest's disaster scenario  
901 could play out. In fact, BellSouth's own Hurricane Katrina recovery website indicates  
902 that at the time of Hurricane Katrina the company reported that 180 of its central office  
903 locations were running on generators due to a loss of commercial power in affected

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<sup>37</sup> Iowa transcript, page 64, lines 9 – 16.

904 areas.<sup>38</sup> Since these offices switched to backup power sources and did not completely  
905 lose power, they are not comparable to Qwest's hypothetical disaster scenario. Further,  
906 even if these central offices lost all power, BellSouth would manage turn up so that  
907 power surges did not over-tax the power plant. Qwest's sole example boils down to  
908 Qwest insisting that it must size power plant for CLECs based on a higher List 2 drain  
909 because of the remote possibility of a 100-year or 500-year weather event. Not only is  
910 this unnecessary and wasteful from an engineering perspective, but even when one of  
911 those events occur, like in the case of Hurricane Katrina, the ILEC would manage the  
912 situation such that power is not completely lost, or ensure that simultaneous List 2 drain  
913 does not occur at start up.

914

915 **Q. MR. ASHTON EXPLAINS AT PAGE 6, FOOTNOTE 1 THAT QWEST'S**  
916 **EQUIPMENT RESTORES POWER IN STAGES AFTER A POWER OUTAGE,**  
917 **AND THEREFORE ITS EQUIPMENT DOES NOT EXPERIENCE THE**  
918 **SIMULTANEOUS LIST 2 DRAIN EVENT DESCRIBED IN MR. ASHTON'S**  
919 **TESTIMONY. DOES MCLEODUSA EQUIPMENT RESTART IN STAGES**  
920 **LIKE QWEST'S EQUIPMENT DOES?**

921 **A.** Yes, it does. The power usage characteristics of telecommunications equipment are the  
922 same regardless of the carrier that is using the equipment. Mr. Ashton admitted in Utah  
923 that McLeodUSA uses at least some of the same equipment as Qwest uses. In these  
924 cases, power would turn up on the McLeodUSA equipment in the exact same way it does  
925 for Qwest.

926

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<sup>38</sup> <http://www.bellsouth.com/residential/employee5.html>

927 **Q. MR. ASHTON CLAIMS THAT YOU RECOGNIZE THE REALITY OF THE**  
928 **NEED FOR QWEST TO SIZE DC POWER PLANT FOR CLECS BASED ON**  
929 **LIST 2 DRAIN.<sup>39</sup> IS THIS A FAIR CHARACTERIZATION OF YOUR**  
930 **TESTIMONY?**

931 A. No, it is not. Mr. Ashton refers to my direct testimony at lines 242 – 251, where I explain  
932 that two identical pieces of equipment serving the same number of customers could have  
933 different power draws. This is simply an illustrative example of how telecommunications  
934 equipment consumes power, whether that equipment is Qwest’s equipment or  
935 McLeodUSA’s equipment. Mr. Ashton tries to imply that this variation in power  
936 consumption is unique to CLEC equipment, which is not true. McLeodUSA’s and  
937 Qwest’s telecommunications equipment consumes power in the same manner, and to the  
938 extent that there is a need to size DC power plant for CLECs’ equipment due to these  
939 fluctuations (as Qwest claims), the same would hold true for Qwest’s own equipment,  
940 yet, Qwest readily admits that it sizes DC power plant based on List 1 drain for its own  
941 equipment. This further highlights the discriminatory nature of Qwest’s proposal. That  
942 is, though Qwest and McLeodUSA’s equipment consumes power in the same manner,  
943 McLeodUSA faces disproportionately higher power charges than does Qwest due to  
944 Qwest’s application of the Power Plant charge on the “as ordered” capacity of  
945 McLeodUSA’s power cables.

946  
947 **Q. MR. ASHTON TESTIFIES THAT “MY EXPERIENCE WORKING WITH**  
948 **VARIOUS CLECS TELLS ME MANY CLECS EXPECT QWEST TO PROVIDE**  
949 **POWER PLANT CAPACITY AT THAT LEVEL [OF POWER CAPACITY IN**

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<sup>39</sup> Ashton Response, page 5, lines 4-14. See also, Ashton Response, page 13, lines 23-25.

950 THE POWER FEEDS].”<sup>40</sup> DID MR. ASHTON SUPPORT THIS STATEMENT  
951 WITH ANY EXAMPLES OF CLEC POWER DRAW REACHING THE  
952 CAPACITY OF THEIR POWER CABLES OR COMPLAINTS WHERE CLECS  
953 ALLEGED THAT QWEST DID NOT PROVIDE THE AMOUNT OF POWER  
954 THEY ORDERED?

955 A. No. In fact, McLeodUSA requested information from Qwest regarding a similar  
956 statement made by Mr. Ashton in the Utah hearings (DR No. 3-5), but Qwest was unable  
957 to provide any examples. I have provided Qwest’s response to DR No. 3-5 as Exhibit  
958 SLM-7 to this testimony. Most pertinent to my point above is subpart (f) where  
959 McLeodUSA asked Qwest whether CLECs had complained that “Qwest could not  
960 provide the List 2 drain associated with the full capacity of the collocator’s power  
961 distribution cables at a time the collocator needed to draw the full List 2 drain” and  
962 Qwest responded, “No.”

963  
964 Q. MR. ASHTON SPEAKS TO “LEGAL AND REGULATORY REASONS QWEST  
965 MAKES POWER PLANT AVAILABLE TO CLECS BASED ON THEIR POWER  
966 ORDERS.”<sup>41</sup> WOULD YOU LIKE TO COMMENT?

967 A. I, like Mr. Ashton, am not an attorney, but you do not need to be an attorney to identify  
968 the flaws in Mr. Ashton’s opinion of Qwest’s legal and regulatory obligations.

969

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<sup>40</sup> Ashton Response, page 5, lines 12-14.

<sup>41</sup> Ashton Response, page 11, lines 2-6.

970 **Q. BEFORE ADDRESSING THE FLAWS IN MR. ASHTON'S REASONING, HAS**  
971 **MR. ASHTON ALREADY ADMITTED THAT HE KNOWS OF NO LEGAL**  
972 **REQUIREMENT THAT QWEST PROVIDE CLECS WITH LIST 2 DRAIN?**

973 A. Yes. Consider the following excerpt from Mr. Ashton's cross examination in Utah:

974 Q. Okay. Well, that was what I was going to ask is whether you were aware  
975 of or what the source of any requirement was that you're aware of that  
976 Qwest make power available to the List 2 drain of CLECs' collocated  
977 equipment?

978 A. I don't know of a legal requirement...<sup>42</sup>  
979

980 **Q. PLEASE ELABORATE ON THE FLAWS IN MR. ASHTON'S REASONING**  
981 **THAT QWEST HAS LEGAL AND REGULATORY OBLIGATIONS TO**  
982 **PROVIDE CLECS WITH LIST 2 DRAIN.**

983 A. I have explained above that there is no way that CLECs would draw the rated amperages  
984 of their power cables all at the same time, Qwest's sole "disaster scenario"  
985 notwithstanding. Qwest cannot have legal or regulatory consequences associated with  
986 something that will not happen. Furthermore, assuming for the sake of argument that the  
987 sole "disaster scenario" provided by Qwest would result in simultaneous List 2 drain for  
988 all CLECs and Qwest was unable to provide it, I am advised by counsel that in such a  
989 scenario involving a disaster such as Katrina, Qwest would be entitled to invoke the  
990 "force majeure" clause of the Interconnection Agreement that would fully excuse its non-  
991 performance.

992  
993 **Q. DO YOU HAVE INFORMATION THAT SHOWS THAT BELL SOUTH WOULD**  
994 **CERTAINLY PURSUE A FORCE MAJUERE EXEMPTION IF A**  
995 **COLLOCATED CLEC FILED A COMPLAINT AGAINST BELL SOUTH FOR A**

<sup>42</sup> Utah transcript, page 320, lines 4 - 9.

996 **POWER PROBLEM DURING HURRICANE KATRINA OR SIMILAR (LESS**  
997 **DRASTIC) EVENT?**

998 A. Yes. BellSouth's disaster recovery homepage defines a disaster as:

999 A disaster is defined for this purpose as a major emergency, an abnormal service  
1000 condition. This condition could be natural or man-made, causing or having the  
1001 potential to cause widespread damage to life, property and/or telecommunication  
1002 services. Examples include but are not limited to, earthquake, tornado, hurricane,  
1003 flood, fire, winter storm, nuclear/chemical accident or explosion.

1004  
1005 Furthermore, according to the Louisiana PSC, no CLEC has complained that BellSouth  
1006 was unable to provide the amount of power associated with the CLEC power cable due to  
1007 the Hurricane Katrina disaster. Hence, even in the most unlikely of circumstances, the  
1008 situation described by Mr. Ashton that allegedly drives Qwest to size power plant for  
1009 CLECs based on List 2 drain has not happened.

1010  
1011 **G. Qwest is backing away from its argument that CLEC orders for power**  
1012 **cables cause Qwest to invest in DC power plant, presumably because this**  
1013 **argument has been shown to be false**

1014  
1015 **Q. MR. ASHTON CLARIFIED QWEST'S TESTIMONY FROM IOWA WHEREIN**  
1016 **QWEST CLAIMED THAT A MCLEODUSA ORDER FOR A 175 AMP POWER**  
1017 **CABLE WOULD "DEFINITELY" RESULT IN QWEST AUGMENTING ITS DC**  
1018 **POWER PLANT.<sup>43</sup> WOULD YOU LIKE TO RESPOND?**

1019 A. Yes. The Qwest testimony from Iowa to which I referred in my direct testimony is  
1020 provided below:

---

<sup>43</sup> Ashton Response, page 14, lines 3-16.

1021                   When McLeod submits orders asking for large amounts of power such as  
1022                   425 amps, 300 amps, 225 amps, or even 175 amps, this will definitely  
1023                   trigger a power plant capacity growth job.<sup>44</sup>  
1024  
1025

1026                   As you can tell, despite Ashton's testimony that what Qwest really "meant by that  
1027                   statement is that the larger the order, the closer or more likely Qwest would be to  
1028                   augment its power plant[,]"<sup>45</sup> that is not what Qwest's Iowa testimony states. Qwest's  
1029                   use of the word "definitely" leaves no room for interpretation.

1030                   Moreover, Qwest's after-the-fact explanation in Arizona about what it meant in  
1031                   Iowa does not support Qwest's claim that DC power plant augments/investment are  
1032                   incremental to McLeodUSA orders for power cables. Rather, it really shows that the  
1033                   only way in which a McLeodUSA order for power cable will trigger a DC power plant  
1034                   augment is if the existing busy hour usage of all power users in the office is so close to  
1035                   the peak capacity of the office's power plant, that when combined with the List 1 drain of  
1036                   the office, the McLeodUSA *usage* would exceed the existing capacity of the power plant.  
1037                   In this case, McLeodUSA just happened to be "the next in line" to request power from a  
1038                   shared resource that was already exhausted through the power draw of other carriers'  
1039                   equipment. Mr. Starkey explains that McLeodUSA is not the "cost causer" in this  
1040                   instance because the need for DC power plant investment is not incremental to  
1041                   McLeodUSA's order.

1042                   **Q.    IS THERE A REASON WHY MR. ASHTON FOUND IT NECESSARY TO**  
1043                   **CLARIFY QWEST'S IOWA TESTIMONY?**

---

<sup>44</sup> Hubbard Rebuttal Testimony, Iowa Utilities Board Docket No. FCU-06-20, page 8, lines 12 – 14.

<sup>45</sup> Ashton Response, page 14, lines 9-10.

1044 A. Yes. The evidence in Iowa did not support Qwest's claim that a CLEC power cable order  
1045 would trigger a DC Power Plant growth job. As McLeodUSA demonstrated, Qwest's  
1046 own exhibits in Iowa showed that numerous McLeodUSA orders for power cables of 175  
1047 amps and greater triggered no DC power plant investment or augmentation on Qwest's  
1048 part. This is evident where Qwest's witness testified on cross-examination as follows:<sup>46</sup>

1049 Q. I think that gets us through all seven jobs listed on the front page  
1050 of RJH-3, Mr. Hubbard, and we have identified one of those that  
1051 your exhibits show involve the additional – addition of capacity  
1052 in response to a McLeod job, correct, that being Mason City  
1053 522?

1054 A. That McLeod was mentioned, yes, but they were serving  
1055 collocation.

1056 Q. And, again, RJH-1 lists [\*\*\*BEGIN CONFIDENTIAL ■  
1057 END CONFIDENTIAL \*\*\*] McLeod collocations, correct?

1058 A. Correct.

1059 Q. Seventeen of which involve cable sized for 175 amps or more,  
1060 correct?

1061 A. Correct.

1062 Q. And in fact that Mason City plant would have to be replaced  
1063 anyway because it was 30 years old, manufacturer discontinued,  
1064 and no parts were available, correct?

1065 A. Well, the growth rate that was required caused it to be replaced.  
1066 Just because it was manufacturer discontinued, if the equipment  
1067 was still operating normally and in good shape and didn't need  
1068 to grow, then it may not have been replaced at that time.

1069

1070 As the above excerpt shows, out of the \*\*\*BEGIN CONFIDENTIAL ■ END  
1071 CONFIDENTIAL\*\*\* McLeodUSA collocations in Iowa, 17 of which have 175 amp  
1072 power cables or larger (up to 425 amps), Qwest only claimed that seven power plant  
1073 growth jobs were attributed to McLeodUSA,<sup>47</sup> and even then, Qwest's witness was  
1074 forced to admit under cross-examination that six of these jobs did not even pertain to

<sup>46</sup> Iowa transcript, pages 621 – 622.

<sup>47</sup> The fact that Qwest only claimed seven jobs were related to McLeodUSA's power cable orders, despite McLeodUSA having seventeen collocations with power cables of 175 amps or greater exposes as false Qwest's claim that a power cable order of 175 amps or greater would "definitely" trigger a power plant growth job.

1075 McLeodUSA and the seventh power plant job was related to old, antiquated equipment  
1076 that lacked replacement parts.

1077

1078 **Q. DID QWEST EVER ATTEMPT TO REHABILITATE ITS CLAIM REGARDING**  
1079 **“DEFINITELY” ADDING POWER PLANT CAPACITY FOR POWER CABLES**  
1080 **OF 175 AMPS OR MORE IN IOWA LIKE IT IS ATTEMPTING TO DO HERE**  
1081 **IN ARIZONA?**

1082 **A.** No. This is evident in the following Q&A from Mr. Hubbard’s cross examination from  
1083 the Iowa transcript (page 603, lines 5 – 14):

1084 Q. Now, in your testimony at page 8, at lines 12 through 14, you  
1085 testify that “When McLeod submits orders asking for large  
1086 amounts of DC power, such as 425 amps, 300 amps, 225 amps,  
1087 or even 175 amps, this will definitely trigger a power plant  
1088 capacity growth job. Qwest has to size the power plant based  
1089 on as-ordered amount.” And that remains your testimony,  
1090 correct?

1091 A. Yeah. It’s kind of irrelevant, but, yes, it does.  
1092

1093 The clincher in Iowa of just how badly the actual facts disproved Qwest’s position was  
1094 that Qwest argued in its brief to the Iowa Utilities Board that all this evidence that Qwest  
1095 never actually augmented its power plant in response to numerous sizeable orders by  
1096 McLeodUSA for large capacity distribution cables, evidence that Qwest itself had  
1097 originally deemed relevant enough to include it in its direct testimony, was now  
1098 “immaterial” and should be ignored by the Board.<sup>48</sup> In short, Qwest’s claim that CLEC  
1099 power cable orders drive Qwest investment/augments in DC power plant was shown to  
1100 be false in Iowa. And while Qwest still attempts to rehabilitate its argument in Arizona,  
1101 Qwest simply cannot support its claim that CLEC power cable orders trigger power plant

<sup>48</sup> Qwest Communications Corporation Post Hearing Brief, p. 31-32.

1102 investment – nonetheless, this claim remains an important part of Qwest’s position in this  
1103 docket.

1104

1105 **Q. WHY DO YOU SAY THAT QWEST’S POSITION IN THIS DOCKET RELIES**  
1106 **HEAVILY UPON ITS OPINION (UNSUBSTANTIATED) THAT CLEC ORDERS**  
1107 **FOR FEEDER CAPACITY DRIVE POWER PLANT INVESTMENTS?**

1108 A. Mr. Ashton continues to argue that Qwest sizes its power plant facilities by considering  
1109 first, Qwest’s List 1 drain, and then adding to that the cumulative total of all collocator  
1110 “power orders” (*i.e.*, CLEC power feeder orders). This is a linchpin argument for Qwest  
1111 because the alternative described in its multiple technical documents (*i.e.*, that Qwest  
1112 sizes its power plant facilities based upon the List 1 drain of all central office equipment,  
1113 including collocator equipment), is fatal to its interpretation of the *Amendment*. This  
1114 results from the fact that Qwest sizing its power plant facilities on the List 1 drain for all  
1115 central office equipment is a direct admission that the power plant facilities are sized  
1116 based upon a given level of electrical usage (*i.e.*, peak usage under normal operating  
1117 conditions – List 1 drain). Given that the power plant facilities are sized according to  
1118 usage, it only makes sense that rates meant to recover those investments would likewise  
1119 be based upon usage (exactly as McLeodUSA interprets the *Amendment*). Given this  
1120 logical conclusion, Qwest (and Mr. Ashton) must continue to argue strenuously that it is  
1121 the CLEC’s power feeder orders that drive the sizing of its power plant, even when all  
1122 documents and evidence point to the contrary. Because, to admit the obvious (*i.e.*, that  
1123 Qwest sizes its power plant in relation to its List 1 drain exactly as its numerous technical  
1124 documents require), would be fatal to its interpretation of the *Power Measuring*  
1125 *Amendment*.

1126

1127

1128

**H. Other issues**

1129

**Q. MR. ASHTON TESTIFIES THAT YOU ARE “CONFUSED” ON THE ISSUE OF  
DECOMMISSIONING COLLOCATION SITES.<sup>49</sup> DOES HE SUPPORT HIS  
CLAIM OF ALLEGED CONFUSION?**

1130

1131

1132

**A.** No. Mr. Ashton never cites to any issue on which I am confused. In the sentence immediately following his claim of confusion, Mr. Ashton confirms that my interpretation of Qwest’s data request is correct.<sup>50</sup> Then, Mr. Ashton goes on to explain that since McLeodUSA’s original orders for power cables, “Qwest has experienced a reduction in the number of operating collocators, thus, a reduction in the amount of drain on an existing power plant”<sup>51</sup> – a point with which I have no reason to disagree. And since I don’t disagree with Mr. Ashton’s statement that Qwest’s lower power drain does not impact the amount of power associated with McLeodUSA power cable order<sup>52</sup> or Qwest’s obligation to provide the usage associated with this order,<sup>53</sup> it is apparent that the alleged confusion stems from my opinion that McLeodUSA is not obligated to pay the Power Plant charge based on the ordered amperage amount for power cables.<sup>54</sup> This is

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<sup>49</sup> Ashton Response, page 14, line 21.

<sup>50</sup> Ashton Response, page 14, lines 21-24.

<sup>51</sup> Ashton Response, page 15, lines 3-4.

<sup>52</sup> Ashton Response, page 15, lines 6-7.

<sup>53</sup> Ashton Response, page 15, lines 7-8. Though Mr. Ashton uses the term “capacity,” as I have demonstrated above, List 2 drain would only be needed under the most remote and extreme circumstances (if ever), and never would Qwest’s power plant need to provide the cumulative List 2 drain associated with all CLECs’ power cables at the same time assuming that Qwest is managing the power plant correctly.

<sup>54</sup> This is apparent because this is the only other issue raised by Mr. Ashton in this regard. Ashton Response, page 15, lines 8-9.

1143 the crux of this case, and my direct and rebuttal testimonies explain in detail why I am  
1144 not confused on this issue.

1145

1146 **Q. MR. ASHTON TAKES ISSUE WITH YOUR DISCUSSION OF LIST 1 DRAIN**  
1147 **AND LIST 2 DRAIN WHERE YOU STATE THAT LIST 1 DRAIN**  
1148 **CORRESPONDS WITH THE “AS CONSUMED” CAPACITY.<sup>55</sup> PLEASE**  
1149 **RESPOND.**

1150 A. Elsewhere in my direct testimony (lines 652-653) I explained that, “List 1 drain is the  
1151 busy hour current during normal plant operation.” Therefore, my statement that List 1  
1152 drain generally corresponds to “as consumed” capacity, simply means that the “as  
1153 consumed” amount represents the power consumed at the busy hour – or the level at  
1154 which DC power plant such as batteries and rectifiers are sized. Mr. Ashton takes issue  
1155 with my testimony because, as he states, “actual consumption will fall below List 1 drain,  
1156 sometimes far below that level.”<sup>56</sup> I agree, however, Mr. Ashton misses the point.  
1157 Again, the “as consumed” level referenced in my testimony refers to a specific power  
1158 draw level, *i.e.*, the peak power consumed at the busy hour, as that specific power draw  
1159 level is used to size DC power plant. This is an important point because Mr. Ashton  
1160 claims that engineering DC power plant based on this “as consumed” or List 1 drain level  
1161 could lead to Qwest being unable to provide power at the levels CLECs need. However,  
1162 since DC power plant is sized according to the peak consumption level of the entire  
1163 central office, Mr. Ashton’s concern in this regard is misplaced.

1164

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<sup>55</sup> Ashton Response, page 12, line 17 – page 13, line 3.

<sup>56</sup> Ashton Response, page 12, lines 21-22.

1165

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

1166

A. Yes.

Rebuttal Testimony of Sidney Morrison  
ACC Docket Nos. T-03267A-06-0105/  
T-01051B-06-0105

## Exhibit SLM-4

Qwest Technical Publication No. 77386

# **Qwest Corporation Technical Publication**

## **Interconnection and Collocation for Transport and Switched Unbundled Network Elements and Finished Services**

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**77386**

**Issue J  
May 2004**

## 1.6 General Requirements

All equipment (IDE) installed by an Interconnector in a Qwest Wire Center must comply with the requirements of the National Electric Code®. The IDE must also comply with the with Bellcore Network Equipment Building System (NEBS) Level 1 safety standards, GR-63-CORE, *NEBS Requirements: Physical Protection*, and GR-1089-CORE, *Electromagnetic Compatibility and Electrical Safety - Generic Criteria for Network Telecommunications Equipment*. Requirements for fiber optic cables are provided in GR-20-CORE, *Generic Requirements for Optical Fiber and Fiber Optic Cable*.

The following publications will also apply for collocation:

- PUB 77350, Central Office Telecommunications Equipment Installation and Removal Guidelines
- PUB 77351, Qwest Communications, Inc. Engineering Standards (three modules)
- PUB 77355, Grounding-Central Office and Remote Equipment Environment
- PUB 77385, Power Equipment and Engineering Standards.

Appropriate sections of the publications must be followed when collocating equipment in a Qwest wire center.

Other requirements of Qwest or of a regulatory and statutory nature may apply. See the appropriate tariff, catalog or contract for further information.

Additional information may also be found on Qwest's web site at:

[www.qwest.com/Wholesale/clecs](http://www.qwest.com/Wholesale/clecs)

## 1.7 Non-Access Private Line Services

Qwest provides end-to-end Private Line Transport Services (PLTS) within a Local Access and Transport Area (LATA). These services have been called Non-Access or IntraLATA services. This situation changes with the introduction of CLECs. A service may still be within a LATA (i.e., intraLATA) but now may be jointly provided by both a CLEC and Qwest. The portion of the service ordered from Qwest is now an Access Service.

The technical parameters for Access Services may differ from those of end-to-end Non-Access services. This is especially true of analog PLTS. Normally, the Non-Access end-to-end technical parameters of a service provided by a LEC are the same as the end-to-end service provided by multiple providers (i.e., a LEC(s) and an Interconnector, CLEC or Interexchange Carrier).

Rebuttal Testimony of Sidney Morrison  
ACC Docket Nos. T-03267A-06-0105/  
T-01051B-06-0105

## Exhibit SLM-5

Qwest Technical Publication No. 77368

**QWEST**  
**Technical Publication**

**COMMERCIAL  
CUSTOMER PREMISES  
ELECTRONIC EQUIPMENT  
ENVIRONMENTAL  
SPECIFICATIONS  
AND  
INSTALLATION GUIDE**

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**77368  
Issue E  
March 2006**

Temperature and high humidity are generally controlled with the HVAC (Heating, Ventilation and Air-Conditioning) system. The owner of the Premises is responsible for HVAC systems which can ensure that temperature and humidity meet the guidelines of Table 4-1.

It may be wise to use more than one HVAC unit or system to meet the load needs. This is wise engineering practice, which protects against outages. As an example, there may be two compressors, each sized to handle 60% of the load. Multiple system components should be designed in such a way that if one component fails, the remaining component(s) should be able to maintain the short-term temperature, humidity, and temperature rate of change guidelines of Table 4-1.

In order for a building owner or their engineer to determine if their HVAC system is adequate, they must know the approximate heat releases of the Qwest equipment.

The building HVAC system should easily be able to handle average NEBS heat spread release of 35 W/ft<sup>2</sup>. This is equivalent to about 500 W per standard front and rear equipment relay rack, 300 W per front-access only relay rack, and 650 W per Customer Premises 2-sided cabinet. The higher NEBS heat release level (which requires notification of the customer, and potential upsizing of the HVAC for the room), is 80 W/ft<sup>2</sup>. This is equivalent to about 1200 W per standard front and rear aisle relay rack, 700 W for front access only relay racks, and about 1500 W for a Premises cabinet.

Average heat release information is given by the vendors. If this cannot be obtained, it can be estimated from List 1 (average) power drains given by the equipment vendors:

$$P_{DC} = I \times V$$

Where I is the List 1 drain in Amperes (Amps), and V is the voltage (normally about -54.5 in a Customer Prem DC plant). The result, P (Power) will be in Watts (W).

Sometimes, the vendor will only give List 2 (peak) power drains. A rough estimate of List 1 drains is 30-40% of the List 2 drain.

If none of the above can be obtained, the rawest estimate can be done using the size of the power plant. Using the formula above, I (the Amps) would be represented by the total capacity of the rectifiers minus one rectifier. For example, if there were five 15 A rectifiers,  $5 \times 15 = 75$ , and  $75 - 15 = 60$  Amps.

Besides Watts, commonly used units for HVAC sizing are BTUs/hr, and tons of air-conditioning. The following conversion factors can be used.

$$1 \text{ W} = 3.41 \text{ BTUs/hr}$$

$$1 \text{ ton of air-conditioning} = 12,000 \text{ BTUs/hr}$$

## Exhibit SLM-6

Qwest Response to  
McLeodUSA Data Request No. 3-8

Arizona  
T-03276A-06-0105/T-01051B-06-0105  
McLeodUSA 03-008

INTERVENOR: McLeodUSA Telecommunications Services, Inc.

REQUEST NO: 008

Please provide the most recent completed Qwest Form 841 "BDFB or Power Board Panel Fuse/Breaker Assignment Record" for all Arizona central offices with McLeodUSA collocations. With regard to this Form 841, please provide the following information:

- (a) Whether the Form 841 includes the telecommunications equipment of both Qwest and CLECs;
- (b) An explanation of how Qwest obtains the "Mfg L-1 Drain" information shown on this form;
- (c) An explanation of how Qwest obtains the "Actual Load" information on this form;
- (d) An explanation of how Qwest obtains the "Mfg L-2 Drain" information shown on this form;
- (e) A detailed explanation of how the information in the "Mfg L-2 Drain" and "Mfg L-1 Drain" columns is used by Qwest; and
- (f) An indication of what information on this form is for engineering use.

RESPONSE:

Qwest objects to this request on the ground that it is overly burdensome to gather responsive documents. If in fact the requested documents actually exist, they are housed at individual central offices and production of these documents would be extremely time consuming.

- (a) Yes. If used, it would include that equipment.
- (b) Qwest obtains L-1 drain information shown on this form based by applying engineering judgment to information obtained from the manufacturer, information from actual experience with the equipment, and information obtained from lab testing.
- (c) The actual load would be filled in by the field technician.
- (d) The Mfg. L-2 drain comes from the manufacturer.
- (e) A detailed explanation of how the information in the "Mfg L-2 Drain" and "Mfg L-1 Drain" columns is used by Qwest; and,
- (f) The information on this form that is for engineering use is the L-1 and L-2 drain information.

Respondent: Curtis Ashton

Rebuttal Testimony of Sidney Morrison  
ACC Docket Nos. T-03267A-06-0105/  
T-01051B-06-0105

## Exhibit SLM-7

Qwest Response to  
McLeodUSA Data Request No. 3-5

Arizona  
T-03276A-06-0105/T-01051B-06-0105  
McLeodUSA 03-005

INTERVENOR: McLeodUSA Telecommunications Services, Inc.

REQUEST NO: 005

In Utah, Mr. Ashton testified that collocators have filed complaints against Qwest for Qwest not providing collocators with the collocators' ordered amount of DC power. Please provide the following information for each of these complaints:

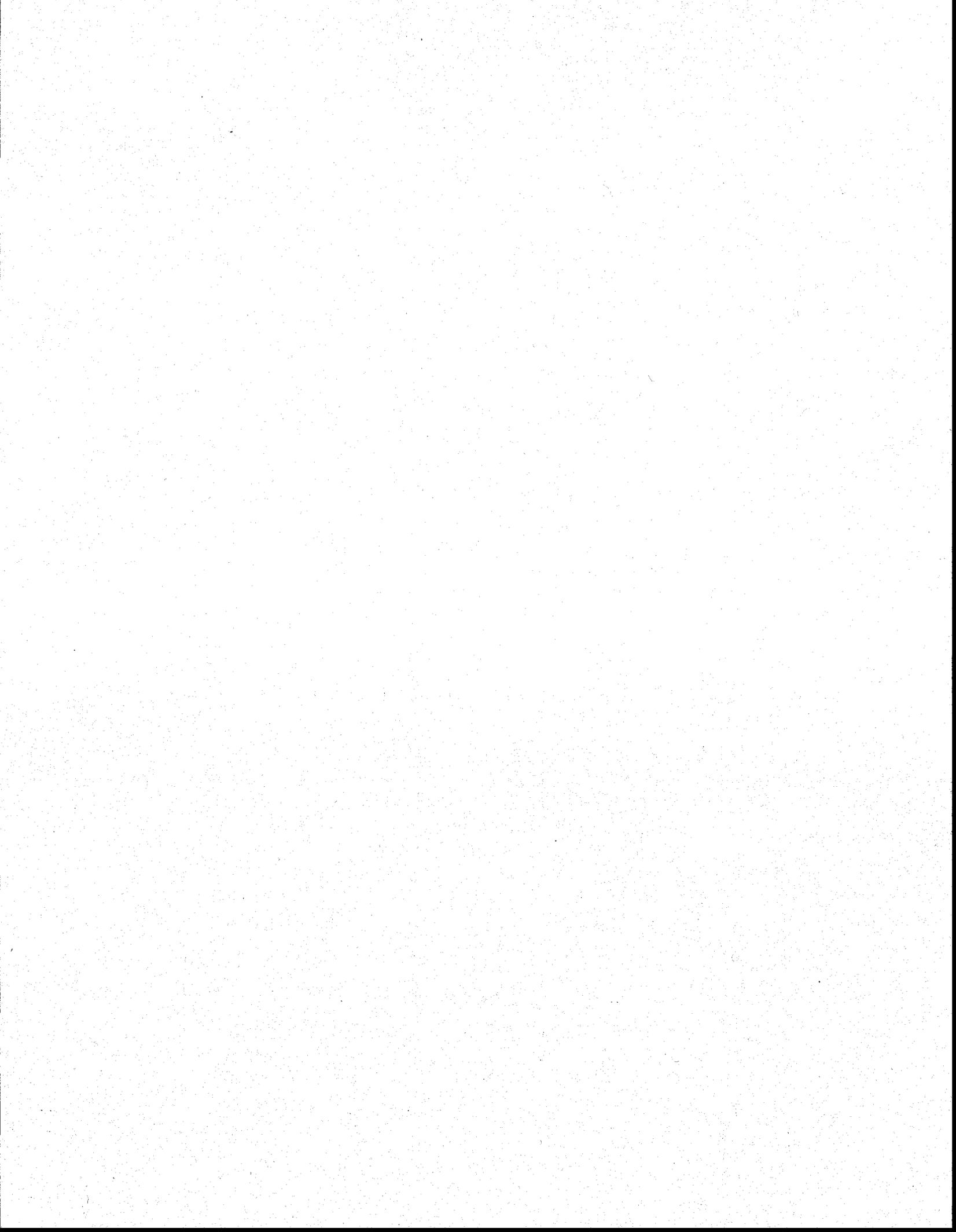
- (a) The state in which the complaint was filed;
- (b) The docket/case number of the complaint;
- (c) The collocator that filed the complaint against Qwest;
- (d) A detailed description of the nature of the complaint, including whether the complaint pertained specifically to a situation in which Qwest did not provide the collocator the amount of power associated with the ordered amperage of the collocator's power distribution cables;
- (e) Whether the complaints pertained to instances in which Qwest could not provide the ordered power due to an "embargo" situation;
- (f) Whether the complaints pertained to instances in which Qwest could not provide the List 2 drain associated with the full capacity of the collocator's power distribution cables at a time the collocator needed to draw the full List 2 drain; and
- (g) Whether any of the complaints disclosed in response to this Request were resolved without state commission involvement and if so, please explain the manner in which the complaint was resolved, including both the form of resolution and the terms agreed to by all parties.

RESPONSE:

- (a) No formal complaints were filed.
- (b) N/A
- (c) No records exist and Mr. Ashton does not recall.
- (d) The only complaint about which details are available involved a CLEC who ordered 30 Amps. Qwest supplied a 30 Amp A breaker and a 30 Amp B breaker. The CLEC grew its load to 40 Amps on each side and complained informally that Qwest didn't size its breakers at 40 A (the breaker sizing rule at the time the CLEC went in in 1997 was 100% instead of the 125% it presently is). In this case the CLEC was drawing more than 260% of the ordered amount and still threatened to complain to the Commission.
- (e) No.
- (f) No.
- (g) All were resolved without State Commission involvement. Qwest does not have records reflecting the manner in which each complaint was resolved. However, Mr. Ashton recalls that on at least one occasion, one of the

complaints was presented orally to Qwest's state interconnection manager and resolved after the CLEC augmented its power order. As described above, at least one of these complaints had to do with a situation in which the CLEC was using far more than its ordered amount of power. The fact that a CLEC thought there was a basis to complain even though it was using far more than the ordered amount confirms Qwest's belief that it must make available to the CLECs the ordered amount of power and not less.

Respondent: Curtis Ashton



**BEFORE THE ARIZONA CORPORATION COMMISSION**

IN THE MATTER OF:	)	Docket No. T-03267A-06-0105
	)	Docket No. T-01051B-06-0105
McLEODUSA	)	
TELECOMMUNICATIONS	)	
SERVICES, INC.,	)	
Complainant,	)	
v.	)	
QWEST CORPORATION,	)	
Respondent.	)	

**REBUTTAL TESTIMONY**

**OF**

**TAMI J. SPOCOGEE**

On behalf of

**McLeodUSA Telecommunications Services, Inc.**

July 5, 2006

1 Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

2 A. My name is Tami J. Spocogee. My business address is 15 East 5<sup>th</sup> Street, Tulsa,  
3 Oklahoma 74103.

4

5 Q. ARE YOU THE SAME TAMI SPOCOGEE WHO FILED DIRECT TESTIMONY  
6 IN THIS PROCEEDING ON MAY 12, 2006?

7 A. Yes.

8

9 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

10 A. To discuss Mr. Easton's response testimony surrounding the *Power Measuring*  
11 *Amendment* and his assertion that McLeodUSA clearly understood that the Power Plant  
12 charge shown under the -48 Volt DC Power Usage rate category of 8.1.4.1 of the pricing  
13 appendix would continue to be billed on an "as ordered" basis instead of a measured basis  
14 under the *Power Measuring Amendment*.

15

16 Q. HAVE YOU REVIEWED THE RESPONSE TESTIMONY OF WILLIAM R.  
17 EASTON FILED IN THIS CASE ON JUNE 22, 2006?

18 A. Yes.

19

20 Q. DO YOU AGREE THAT THE *POWER MEASURING AMENDMENT* CLEARLY  
21 SHOWS THAT THE POWER PLANT CHARGE SHOULD CONTINUE TO BE  
22 BILLED ON AN "AS ORDERED" BASIS, AS MR. EASTON CONTENDS?

23 A. No. Mr. Easton states in his testimony that the Power Plant charge was not even  
24 mentioned in the amendment so it was clearly understood that those charges would not be  
25 included in the measurement.<sup>1</sup> Mr. Easton is mistaken. Section 2.1 of the amendment  
26 explains the difference between DC Power Usage and AC Usage charges, and the  
27 description of the DC Power Usage charge specifically states that the DC Power Usage is  
28 for the capacity of the *power plant* available for CLEC's use [“the DC Power Usage  
29 Charge is for the capacity of the power plant available for CLEC’s use.”] Since this  
30 description includes the use of the power plant *used* by the CLEC and not the power plant  
31 *ordered*, it is clear that the Power Plant charge is to be included in the *Power Measuring*  
32 *Amendment*.

33

34 **Q. DOES THE PRICING APPENDIX (EXHIBIT A) ALSO SUPPORT**  
35 **MCLEODUSA’S POSITION THAT THE POWER MEASURING AMENDMENT**  
36 **APPLIES TO THE POWER PLANT CHARGE?**

37 A. Yes. Exhibit A of the Interconnection Agreement shows both Power Plant and Power  
38 Usage charges as components of the -48 Volt DC Power Usage rate category (8.1.4.1).  
39 Section 2.2.1 shows the -48 Volt DC Power Usage Charge applies on a per amp basis to  
40 all orders greater than (60) amps and would be billed on a measured basis. In addition, as  
41 Exhibit A shows, the Power Plant charge, like the Usage charge, is structured with  
42 separate rate elements for greater than and less than 60 amps, or the same threshold in the  
43 *Power Measuring Amendment*. Since both the Power Plant charge and the Usage charge

---

<sup>1</sup> Response Testimony of William Easton on behalf of Qwest Corporation, June 22, 2006 (“Easton Response”), page 6, lines 31-33.

44 are components of the same rate category (-48Volt DC Power Usage), the Amendment  
45 and Exhibit A support McLeodUSA's position that the Power Plant charge should be  
46 billed on a measured basis per the Amendment.

47

48 **Q. IS MR. EASTON'S DESCRIPTION OF THE CHANGE MANAGEMENT**  
49 **PROCESS RELEVANT?**

50 A. No. Mr. Easton dedicates a significant portion of his response testimony discussing the  
51 Qwest Change Management Process ("CMP") and the PCAT,<sup>2</sup> and providing his opinion  
52 about what he would expect a reasonably prudent carrier to do with this information.<sup>3</sup> I  
53 disagree with Mr. Easton that these documents support Qwest's interpretation of the  
54 amendment that was executed by the parties.

55

56 **Q. PLEASE EXPLAIN.**

57 A. Neither of Mr. Easton's CMP/PCAT-related exhibits (WRE-1 or WRE-2) impact the  
58 rates or the application of such rates billed via McLeodUSA's Interconnection  
59 Agreement and associated amendments. In fact, Mr. Easton's own exhibit (Exhibit  
60 WRE-2) clearly states at the bottom of page 1:

61 *Note: In cases of conflict between the changes implemented through this*  
62 *notification and any CLEC interconnection agreement (whether based on*  
63 *the Qwest SGAT or not), the rates, terms and conditions of such*  
64 *interconnection agreement shall prevail as between Qwest and the CLEC*  
65 *party.*  
66

---

<sup>2</sup> Easton Response, pages 11-15.

<sup>3</sup> Easton Response, page 15, line 12.

67 Q. MR. EASTON STATES THAT A MCLEODUSA REPRESENTATIVE  
68 ATTENDED CMP MEETINGS. IS IT REASONABLE TO ASSUME AS MR.  
69 EASTON DOES THAT THIS EMPLOYEE WOULD HAVE BEEN AWARE OR  
70 INFORMED ABOUT COLLOCATION POWER ISSUES?

71 A. No. Mr. Easton highlights that McLeodUSA employee Stephanie Prull attended the  
72 CMP meetings, but even he acknowledges she did not attend the ad hoc meetings held  
73 specifically about the *Power Measuring Amendment*.<sup>4</sup> McLeodUSA verified that this  
74 former employee only attended the meeting the overall CMP meeting and not the adhoc  
75 meetings. However, the mere attendance at a CMP meeting in this instance is of no  
76 consequence. As is the case with a significant majority of CMP meetings, the agenda  
77 was wide and varied. Ms. Prull was employed in the service delivery organization and  
78 her sole focus in attending such meetings related strictly to the ordering processes used  
79 for the provisioning of McLeodUSA end user services. Ms. Prull was not in attendance  
80 to monitor collocation or product issues and would have no knowledge regarding the  
81 billing and or elements associated with the billing of collocation power. Therefore, Mr.  
82 Easton is incorrect when he implies that McLeodUSA should have been aware of  
83 Qwest's intent because a McLeodUSA representative attended a CMP meeting.

84  
85 Q. DOES THE CMP DEFINE RATES OR RATE APPLICATIONS AS MR. EASTON  
86 INSINUATES?

---

<sup>4</sup> Easton Response, page 13, lines 1-7.

87 A. No. The CMP and PCAT are product and process documents, and they do not define or  
88 regulate the rates and/or application of those rates. Qwest's website describes the CMP  
89 as follows:

90 This document defines the processes for change management of  
91 Operations Support Systems (OSS) Interfaces, products and processes  
92 (including manual) as described below. CMP provides a means to address  
93 changes that support or affect pre-ordering, ordering/provisioning,  
94 maintenance/repair and billing capabilities and associated documentation  
95 and production support issues for local services.  
96

97 Nowhere in Qwest's description of the CMP does it state that CMP defines the rates or  
98 application of rates billed – and for good reason: those are defined in the Interconnection  
99 Agreements. Because CMP and PCAT are used for the purpose of setting processes and  
100 explaining products (not rates or rate application), and because this case is about Qwest's  
101 application of the Power Plant charge, it is irrelevant whether or not McLeodUSA read  
102 the CMP/PCAT documents identified by Mr. Easton. In short, the Parties'  
103 Interconnection Agreement (including its amendments, *e.g.*, *Power Measuring*  
104 *Amendment*) overrides anything stated in the CMP/PCAT documentation, and  
105 McLeodUSA interprets the *Power Measuring Amendment* to require the Power Plant rate  
106 element to be billed on a measured basis.  
107

108 **Q. WOULD YOU LIKE TO RESPOND TO MR. EASTON'S EXHIBITS WRE-3 AND**  
109 **WRE-4?**

110 A. Yes. Mr. Easton claims that spreadsheets used by the McLeodUSA engineering group to  
111 track the savings as a result of signing the amendment (Exhibits WRE-3 and WRE-4)  
112 prove that McLeodUSA intended for the *Power Measuring Amendment* to impact only

113 the Power Usage rate element and not the Power Plant rate element.<sup>5</sup> I strongly disagree.  
114 This spreadsheet is nothing more than a summary of the price quote information Qwest  
115 provided to McLeodUSA.

116

117 **Q. WHO CREATED THESE SPREADSHEETS AND WHY?**

118 A. McLeodUSA's engineering group created these spreadsheets for the purpose of  
119 combining all of the Price Quote forms sent by Qwest and showing the amount of credit  
120 that Qwest would apply to the collocation invoices. This engineering group was tasked  
121 with ensuring that the total collocation related power charges would not *increase* if the  
122 amendment was signed. Though it sounds counterintuitive that McLeodUSA's total  
123 power charges would increase if the collocation power charges were billed on a measured  
124 basis instead of an "as ordered" basis, McLeodUSA had actually experienced this  
125 situation in other states, wherein the ILEC reduced McLeodUSA's power charges, but  
126 increased other charges for a net increase in the overall billing related to collocation. The  
127 Price Quote information that was provided by Qwest (and aggregated in the spreadsheets  
128 provided as Exhibits WRE-3 and WRE-4) confirmed that the amendment would reduce  
129 the total collocation cost (*i.e.*, no other charges would increase as a result of the  
130 Amendment), everything else equal, so the *Power Measuring Amendment* was signed.

131

132 **Q. CAN YOU SHOW THAT THESE SPREADSHEETS ARE NOTHING MORE**  
133 **THAN AN AGGREGATION OF DATA PROVIDED BY QWEST?**

---

<sup>5</sup> Easton Response, pages 16-17.

134 A. Yes. A comparison of the spreadsheet provided as Exhibit WRE-4 to the Price Quote  
135 sheet provided to McLeodUSA by Qwest shows that the data in the spreadsheet is the  
136 very same data provided by Qwest. To demonstrate this point, I have attached as Exhibit  
137 TS-1 sample price quotes that McLeodUSA received from Qwest that displays the very  
138 same information that was used in the development of Mr. Easton's Exhibit WRE-4.<sup>6</sup>

139

140 **Q. MR. EASTON TESTIFIES THAT IT IS NOT POSSIBLE THAT THE PERSONS**  
141 **WHO PREPARED THIS SPREADSHEET WERE UNAWARE THAT THERE**  
142 **ARE SEPARATE POWER PLANT AND POWER USAGE RATES.<sup>7</sup> WOULD**  
143 **YOU LIKE TO COMMENT?**

144 A. Yes. In Mr. Easton's testimony, he discusses Exhibit WRE-5, which is one of the  
145 original price quotes sent when the collocation is initially built. The power plant is  
146 shown as a separate cost component along with the power usage. Mr. Easton assumes  
147 that since the price quote shows power plant in addition to power usage, the engineers  
148 that were responsible for signing the amendment would understand that the Power Plant  
149 charge would not be impacted by the *Power Measuring Amendment*. This assumption is  
150 incorrect. As mentioned previously, the engineering group was only making sure that the  
151 total cost of the collocation would not be increased. Even though the initial cost of the  
152 total collocation was provided, the engineers look at the total cost and not the application  
153 of all the rates. Even though the price quotes provided were in 2003 (approximately 15

---

<sup>6</sup> I have provided price quote information for the State of Utah because Mr. Easton's Exhibit WRE-4 shows Utah data. The same would hold true for Arizona.

<sup>7</sup> Easton Response, pages 17-18.

154 months before the Power Measuring Amendment) the price quote does not state whether  
155 the charges are billed from measured or ordered amps. As a result, the information is still  
156 not pertinent to the issue.

157

158 **Q. WHY DO YOU BELIEVE THE MCLEODUSA ENGINEERS WOULD HAVE**  
159 **BEEN UNAWARE OF THE DIFFERENT POWER RELATED ELEMENTS IN**  
160 **PERFORMING THEIR ANALYSIS?**

161 A. Because this team had been doing the same work in Michigan where there is a unified  
162 power rate (*i.e.*, a combined rate covering both power plant capacity and usage). Thus,  
163 the group would not have understood there were separate charges that applied in certain  
164 Qwest states.

165

166 **Q. HOW DID MCLEODUSA IDENTIFY THE PROBLEM OF QWEST**  
167 **CONTINUING TO BILL THE POWER PLANT CHARGE ON AN "AS**  
168 **ORDERED" BASIS?**

169 A. Once the amendment was signed and the Network Cost Management group started  
170 performing audits on the collocations, it noticed the Power Plant rate element of the -  
171 48Volt DC Power Usage rate grouping was not being billed on a measured basis.  
172 McLeodUSA asked Qwest for explanations and rationale as to why it was not billing the  
173 Power Plant charge on a measured basis. However, given that Qwest's explanation did  
174 not square with McLeodUSA's interpretation of the *Power Measuring Amendment* (and  
175 does not withstand scrutiny from an economic and engineering perspective, as explained

176 by Messrs. Morrison and Starkey), McLeodUSA came to the conclusion that the charges  
177 were not billed in accordance with the Amendment, and disputed the charges.

178

179 **Q. MR. EASTON TESTIFIES THAT “MCLEOD ACKNOWLEDGED THAT IT**  
180 **WAS ONLY AFTER SIGNING THE AMENDMENT, IN FACT MANY MONTHS**  
181 **AFTER SIGNING THE AMENDMENT, THAT IT FIRST BEGAN TO**  
182 **INTERPRET THE LANGUAGE IN THE AMENDMENT IN THE MANNER**  
183 **THAT IT IS PROPOSING IN THIS PROCEEDING.”<sup>8</sup> DOES MR. EASTON**  
184 **PROVIDE AN ACCURATE PORTRAYAL OF THIS ISSUE?**

185 A. No. This problem of Qwest inappropriately billing the Power Plant rate element was not  
186 discovered until the normal audit activities of the Network Cost Management group were  
187 performed. The responsibility of this group is entirely different than the engineers that  
188 were responsible for executing the Amendment. Network Cost Management is  
189 responsible for auditing all the network invoices that McLeodUSA receives from other  
190 telecom vendors providing service to McLeodUSA. There are two different processes  
191 performed by the group that work in conjunction with the power plant issue. One of the  
192 functions includes the verification of the savings initiatives done by the network groups.  
193 This would include the validation that the credits were received from the price quotes  
194 associated with the *Power Measuring Amendment*. The engineers would populate the  
195 spreadsheet and turn it into the Network Cost Management group to verify the charges  
196 changed. The other function performed by the Network Cost Management group is the

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<sup>8</sup> Easton Response, page 18, lines 12-15.

197 detailed audit to review all contracts, tariffs, service orders, network configurations, etc.  
198 and compare these with the charges billed by the vendors. It was during one of these  
199 detailed audits that Qwest's application of the Power Plant charge was questioned. This  
200 had nothing to do with the engineering group changing its interpretation, as Mr. Easton  
201 insinuates. Annual audits are performed on embedded base services and these audits  
202 were started on all collocations around April or May of 2005. McLeodUSA sent various  
203 inquiries, mostly via conference calls, to Qwest personnel questioning the measurement  
204 of the Power Plant charge.

205

206 **Q. IS IT COMMON FOR DISPUTES OF THIS NATURE TO ARISE AFTER 30**  
207 **DAYS?**

208 **A.** Yes. It is very common in the industry for audits to be performed and back disputes filed  
209 as far back as 2 years (as stated in the Telecom Act). Because of the complexity in the  
210 network charges billed and the large volume, audits cannot be performed in detail every  
211 month as bills are rendered. McLeodUSA is limited because of the due dates enforced  
212 (usually 30 days from the invoice date) to only perform detailed audits periodically. Mr.  
213 Easton's testimony points out the fact that the ICA only allows 30 days from the date the  
214 invoice was received for disputes to be filed.<sup>9</sup> This has no bearing on the proper  
215 interpretation of the *Power Measuring Amendment*. In addition, Qwest has not enforced  
216 this short limitation for incorrect charges being disputed in the past, and the Parties have  
217 had previous disputes associated with ICA charges wherein credits were applied though

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<sup>9</sup> Easton Response, page 19.

218 the dispute was filed well after 30 days. This provision in no way changes the fact that  
219 the Power Plant charge should be billed on a measured basis pursuant to the *Power*  
220 *Measuring Amendment*. Though this is an issue better addressed in briefs, this provision  
221 would, at the very most, limit how far back McLeodUSA should get recovery for the  
222 overcharges, which would be when McLeodUSA started notifying Qwest that it was  
223 challenging the billings for collocation power charges, or the second quarter of 2005.

224

225 **Q. ARE YOU AWARE WHETHER QWEST AVAILS ITSELF OF THE SAME**  
226 **INDUSTRY PRACTICE OF IDENTIFYING BILLING DISPUTES WELL AFTER**  
227 **BILLS HAVE BEEN PAID BASED ON THE ALLEGED BILLING ERROR?**

228 A. Yes, my organization is also responsible for collection of payments from other carriers  
229 such as Qwest for services provided by McLeodUSA. In just the last 2-3 years, there are  
230 at least four or five instances where Qwest identified new billing disputes and related  
231 claims for overcharges several years prior after having never disputed such charges  
232 before. These disputes arose after an outside auditor employed by Qwest had identified  
233 new basis for disputes that had never previously been made by Qwest. These claims  
234 involve millions of dollars that Qwest has withheld payment from McLeodUSA. In  
235 addition, these disputes were also filed even though the McLeod access tariffs state that  
236 disputes can only be filed within 90 days of the bill date. Mr. Easton's claim that  
237 McLeodUSA challenge of the collocation power charges is somehow less credible simply  
238 because of the delay in filing our claims with Qwest is belied by the fact that Qwest does  
239 this itself on a routine basis.

240

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

242 **A. Yes, at this time.**

## Exhibit TS-1

### Qwest Price Quotes

**QWEST PRICE QUOTE**

DATE: AUGUST 11, 2004  
 CLEC: MCLEOD  
 C. O.: KAYSVILLE  
 CLI/ACTL: KYVLUTMAHGA  
 BAN: C56LG31  
 QUOTE EXPIRATION DATE:  
 (Power Monitoring) COLLOCATION PRICE SUMMARY

**NONRECURRING CHARGES**

USOC	Rate Elements	Qty	Length/ Size	Description	Unit Price	Total Price	Price Resource
	<b>Total Nonrecurring Charges</b>						
				Entrance Facility Fiber	0		Wholesale Collocation Service Manager
				Bays	0		CATHY BATTLES
				Amps	0		515-286-6845
				Feeds	0		
				Amps	0		
				Feeds	0		

DATE: AUGUST 11, 2004  
 CLEC: MCLEOD  
 C. O.: KAYSVILLE  
 CLI/ACTL: KYVLUTMAHGA  
 BAN: C56LG31  
 QUOTE EXPIRATION DATE:  
 EFFECTIVE BILLING DATE: 7/25/05  
 (Power Monitoring) COLLOCATION PRICE SUMMARY

**MONTHLY RECURRING CHARGES**

USOC	Rate Elements	Qty	Length/ Size	Description	Unit Price	Total Price	PRICE RESOURCE
	<b>Total Recurring Charges</b>						
	-48 Volt DC Power Usage (greater than 60 Amps)	21		Per Amp	3.89	\$ 81.69	State Tariff
						\$ 81.69	

NOTES: This adjustment is based on the power reading taken on 7/25/05. Please make a Total Replacement of the existing Usage quantity currently billing on job C46LG09.

**QWEST PRICE QUOTE**

DATE: AUGUST 11, 2004  
 CLEC: MCLEOD  
 C. O.: MIDVALE  
 CLI/ACTL: MDVAUTMAHGC  
 BAN: C56LG34  
 QUOTE EXPIRATION DATE:

Entrance Facility Fiber  
 Bays 0  
 Amps 0  
 Feeds 0  
 Amps 0  
 Feeds 0

Wholesale Collocation Service Manager  
 CATHY BATTLES  
 515-286-6845

(Power Monitoring) COLLOCATION PRICE SUMMARY

NONRECURRING CHARGES

USOC	Rate Elements	Qty	Length/ Size	Description	Unit Price	Total Price	Price Resource
	Total Nonrecurring Charges						
						\$	

DATE: AUGUST 11, 2004  
 CLEC: MCLEOD  
 C. O.: MIDVALE  
 CLI/ACTL: MDVAUTMAHGC  
 BAN: C56LG34  
 QUOTE EXPIRATION DATE:  
 EFFECTIVE BILLING DATE: 7/26/05  
(Power Monitoring) COLLOCATION PRICE SUMMARY

Entrance Facility Fiber  
 Bays 0  
 Amps 0  
 Feeds 0  
 Amps 0  
 Feeds 0

Wholesale Collocation Service Manager  
 CATHY BATTLES  
 515-286-6845

MONTHLY RECURRING CHARGES

USOC	Rate Elements	Qty	Length/ Size	Description	Unit Price	Total Price	PRICE RESOURCE
CIFP5	-48 Volt DC Power Usage (greater than 60 Amps)	36		Per Amp	\$ 3.89	\$ 140.04	State Tariff
	Total Recurring Charges					\$	140.04

NOTES: This adjustment is based on the power reading taken on 7/26/05. Please make a Total Replacement of the existing Usage quantity currently billing on job C46LG11.

**QWEST PRICE QUOTE**

DATE: AUGUST 11, 2004  
 CLEC: MCLEOD  
 C. O.: MURRAY  
 CLI/ACTL: MRRYUTMAHGE  
 BAN: C56LG37  
 QUOTE EXPIRATION DATE:

(Power Monitoring) COLLOCATION PRICE SUMMARY

NONRECURRING CHARGES

USOC	Rate Elements	Qty	Length/ Size	Description	Unit Price	Total Price	Price Resource
	<b>Total Nonrecurring Charges</b>						
						\$ -	

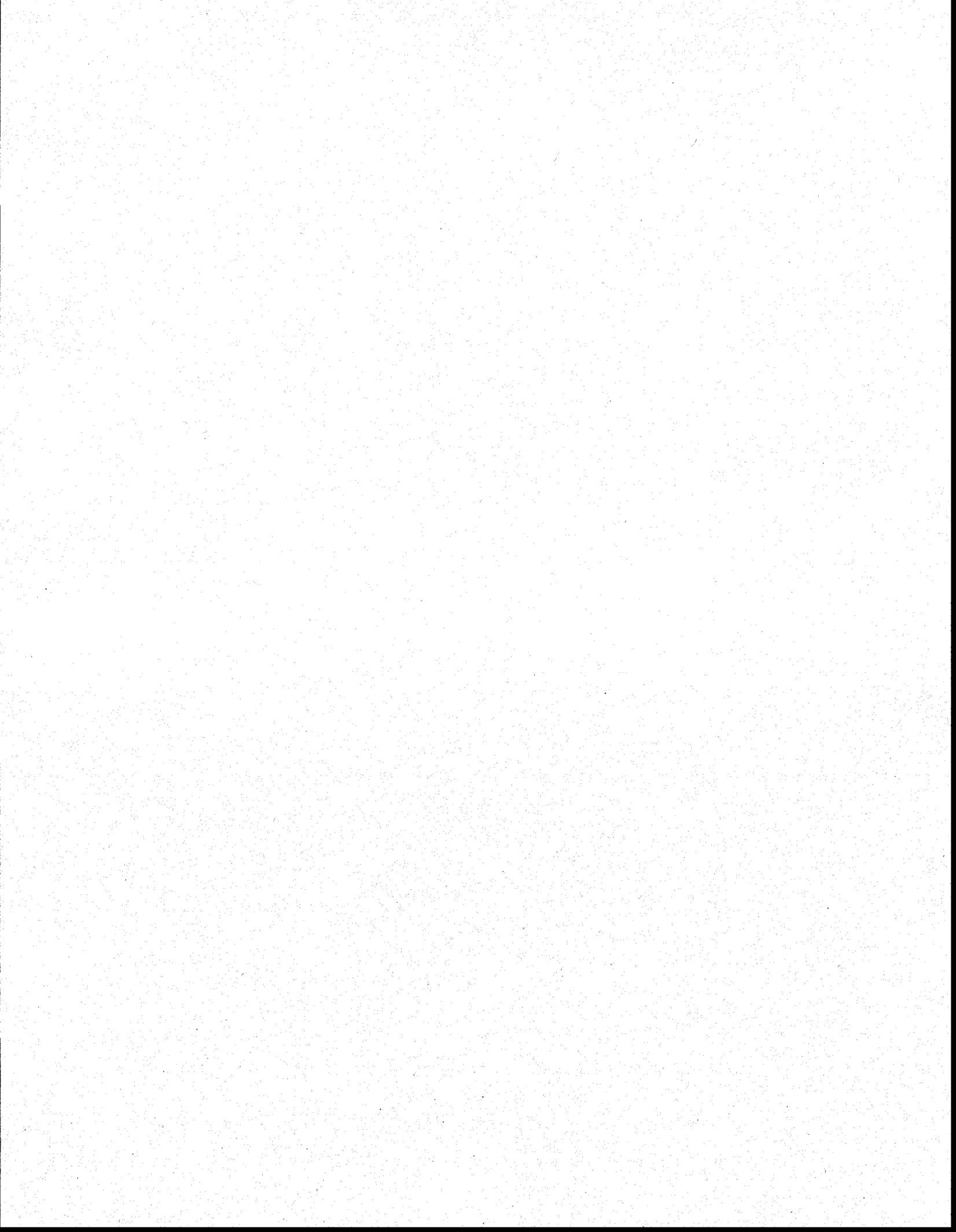
DATE: AUGUST 11, 2004  
 CLEC: MCLEOD  
 C. O.: MURRAY  
 CLI/ACTL: MRRYUTMAHGE  
 BAN: C56LG37  
 QUOTE EXPIRATION DATE:  
 EFFECTIVE BILLING DATE: 7/26/05

(Power Monitoring) COLLOCATION PRICE SUMMARY

MONTHLY RECURRING CHARGES

USOC	Rate Elements	Qty	Length/ Size	Description	Unit Price	Total Price	PRICE RESOURCE
C1FP5	-48 Volt DC Power Usage (greater than 60 Amps)	33		Per Amp	\$ 3.89	\$ 128.37	State Tariff
	<b>Total Recurring Charges</b>					\$ 128.37	

NOTES: This adjustment is based on the power reading taken on 7/26/05. Please make a Total Replacement of the existing Usage quantity currently billing on job C46LG13.



**BEFORE THE ARIZONA CORPORATION COMMISSION**

IN THE MATTER OF:	)	Docket No. T-03267A-06-0105
	)	Docket No. T-01051B-06-0105
McLEODUSA	)	
TELECOMMUNICATIONS	)	
SERVICES, INC.,	)	
Complainant,	)	
v.	)	
QWEST CORPORATION,	)	
Respondent.	)	

**REBUTTAL TESTIMONY  
OF  
MICHAEL STARKEY**

On behalf of

**McLeodUSA Telecommunications Services, Inc.**

July 5, 2006

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**EXHIBITS**

Exhibit MS-2: Power Measuring Amendment

Exhibit MS-3: Exhibit A Pricing Appendix

Exhibit MS-4: Collocation Application

1                   **I. INTRODUCTION**  
2

3           **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS FOR THE RECORD.**

4           A. My name is Michael Starkey. My business address is QSI Consulting, Inc., 243  
5           Dardenne Farms Drive, Cottleville, Missouri 63304.

6  
7           **Q. ARE YOU THE SAME MICHAEL STARKEY WHO FILED DIRECT**  
8           **TESTIMONY IN THIS PROCEEDING ON MAY 12, 2006 AND**  
9           **SUPPLEMENTAL DIRECT TESTIMONY ON JUNE 9, 2006?**

10          A. Yes.

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

13          A. I will respond to the Response Testimony filed on behalf of the Qwest Corporation  
14          (hereafter "Qwest") by Mr. William R. Easton,<sup>1</sup> Mr. Curtis Ashton,<sup>2</sup> and Ms. Teresa K.  
15          Million.<sup>3</sup>

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<sup>1</sup> Response Testimony of William R. Easton on behalf of Qwest Corporation, Arizona Docket Nos. T-03267A-06-0105/T-01051B-06-0105, June 22, 2006 ("Easton Response").

<sup>2</sup> Response Testimony of Curtis Ashton on behalf of Qwest Corporation, Arizona Docket Nos. T-03267A-06-0105/T-01051B-06-0105, June 22, 2006 ("Ashton Response").

<sup>3</sup> Response Testimony of Teresa K. Million on behalf of Qwest Corporation, Arizona Docket Nos. T-03267A-06-0105/T-01051B-06-0105, June 22, 2006 ("Million Response").

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18

## II. RESPONSE TO MR. EASTON

19

**Q. MR. EASTON RAISES A NUMBER OF ISSUES RELATED TO YOUR DIRECT**

20

**TESTIMONY, CAN YOU SUMMARIZE THE POINTS YOU INTEND TO**

21

**ADDRESS?**

22

**A.** Yes, they are summarized below:

23

1. Despite Mr. Easton's assertions to the contrary, McLeodUSA is very aware of the fact that this case focuses on specific contract language and the proper interpretation of that language (specifically the *Power Measuring Amendment*).<sup>4</sup> However, the parties obviously disagree as to the proper interpretation of the language and hence, additional information necessary to discern the most reasonable interpretation is relevant and informative. Moreover, given that Qwest's own engineering documentation, its cost study supporting its rates and the real-world manner in which it provisions collocation power belie Qwest's interpretation of the *Power Measuring Amendment*, it is no wonder Mr. Easton would suggest an unreasonably narrow review.

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2. Mr. Easton's assertions regarding the information McLeodUSA should have had available to it prior to signing the *Amendment* miss the mark. The fact of the matter is that the *Power Measuring Amendment* drafted by Qwest and signed by McLeodUSA does not contain the same language as the *Wholesale Products and Services* portion of Qwest's website that resulted from the industry meetings to which Mr. Easton repeatedly refers.<sup>5</sup> All of the Change Management Process ("CMP") meetings Mr. Easton discusses were intended to perfect the language in Qwest's wholesale catalog. However, the actual *Power Measuring Amendment* that was ultimately provided to McLeodUSA and executed by the parties includes language which is specifically different from that found in the catalog. In fact, the language to which Mr. Easton refers when discussing Allegiance Telecom<sup>6</sup> has been specifically removed from the *Amendment*. Most notably, the Amendment discusses the Power Usage charge generally, and even defines it to include Qwest's power plant capacity (and the actual AC usage purchased from the utility). As such, regardless of what the wholesale catalog says, or what Qwest provided to CLECs in relation to drafting the catalog information, the

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<sup>4</sup> I have attached to this testimony a copy of the Power Measuring Amendment as Exhibit MS-2.

<sup>5</sup> The information from Qwest's website is provided by Mr. Easton as Exhibits WRE-1 and WRE-2.

<sup>6</sup> See, Exhibit WRE-2.

50 Amendment is very different and must be interpreted consistent with its own  
51 language.

- 52
- 53 3. Mr. Easton claims that my direct testimony constitutes an attack on the "Power  
54 Plant rate itself."<sup>7</sup> He is mistaken. My testimony makes no mention of whether  
55 the Power Plant rate adopted by the Commission is reasonable or not, nor does it  
56 discuss the rate level in any detail. Instead, my direct testimony points out that  
57 the manner by which the rate is established also dictates the manner by which it  
58 must be assessed if it is to recover the intended level of DC power plant  
59 investment. In other words, my testimony discusses only the application of the  
60 Power Plant rate, which is exactly at the heart of the debate regarding the *Power*  
61 *Measuring Amendment*. In this circumstance, Qwest's Power Plant rate is  
62 developed using the amount of power plant capacity actually consumed by Qwest  
63 and its collocators, not based upon the size of power feeder cables ordered by  
64 McLeodUSA (or any other collocator). Accordingly, applying the Power Plant  
65 rate based upon the size of McLeodUSA's power feeder cables (consistent with  
66 Qwest's reading of the Amendment) results in Qwest enjoying a windfall at its  
67 collocators' expense. It likewise results in CLECs paying far more for DC power  
68 plant than Qwest does, even though both rely upon the exact same DC power  
69 plant to electrify their respective telecommunications equipment.  
70

71 **Q. PLEASE DESCRIBE FURTHER MR. EASTON'S POINT REGARDING THE**  
72 **CONTRACT LANGUAGE AND HIS BELIEF THAT IT SUPPORTS QWEST'S**  
73 **POSITION IN THIS PROCEEDING.**

- 74 A. At page 8 of his response testimony, Mr. Easton focuses on the fact that paragraphs 2.2  
75 and 2.2.1 of the *Power Measuring Amendment* reference a *-48 Volt DC Power Usage*  
76 *Charge* (singular) when describing the application of its power measuring activities.  
77 Therein, Mr. Easton places substantial weight on the fact that the *Amendment* uses the  
78 singular "Charge" rather than the plural "Charges" when describing *-48 Volt DC Power*  
79 *Usage*. Mr. Easton suggests that if the intention of the *Amendment* was to apply to both  
80 the *Usage* (rate element 8.1.4.1.2 in the pricing appendix Exhibit A)<sup>8</sup> and the *Power*

<sup>7</sup> Easton Response, page 27, lines 10-11. See also, Easton Response, page 3, line 11 and Ashton Response, page 3, lines 3-7. See also, Million Response, page 6, lines 1-10.

<sup>8</sup> I have provided Exhibit A (the pricing appendix) as Exhibit MS-3 to this testimony.

81 *Plant* (8.1.4.1.1) charges, it would have been used in the plural. Based upon this  
82 distinction, Mr. Easton concludes that the *Amendment* implies measured usage for one  
83 element only, i.e., the *Power Usage Greater than 60 Amps* (8.1.4.1.2.2) and not the  
84 corresponding *Power Plant* rate element (8.1.4.1.1.1).

85  
86 **Q. DO YOU AGREE?**

87 A. No, I do not. I would describe Mr. Easton's analysis above as somewhat tortured. In  
88 fact, the *Amendment* defines the very "-48 Volt DC Power Usage Charge" (singular) to  
89 which measured usage is to apply, and upon which Mr. Easton places substantial weight,  
90 as being directly tied to the power plant capacity used by the CLEC:

91 The DC Power Usage Charge is for the capacity of the power plant  
92 available for CLEC's use. (*Power Measuring Amendment*, Sec. 2.1)

93 Hence, while Mr. Easton's erroneous interpretation relies upon the relatively obscure  
94 notion that the singularity of the term "-48 Volt DC Power Usage Charge"<sup>9</sup> dictates its  
95 application (even though it is clearly meant to refer to a group of individual rate elements  
96 included at Section 8.1.4 of Exhibit A),<sup>10</sup> the plain language of the *Amendment* defies this  
97 interpretation. The actual definition rendered to the -48 Volt DC Power Usage Charge  
98 within the *Amendment* itself would have to be ignored in order to conclude that the  
99 *Amendment* and its application of measured usage impacts only rate element 8.1.4.1.2  
100 (*Usage*) and not 8.1.4.1.1 (*Power Plant*).

101  
102  

---

<sup>9</sup> Easton Response, page 8, lines 13-15.

<sup>10</sup> Oftentimes a group can be referred to in the singular if the author is addressing a single group.

103 Q. MR. EASTON CLAIMS AT PAGE 10 OF HIS RESPONSE TESTIMONY THAT  
104 YOUR INTERPRETATION OF SECTION 2.1 IS PROBLEMATIC FOR THREE  
105 REASONS? WOULD YOU LIKE TO RESPOND?

106 A. Yes. First, Mr. Easton states that “Section 2.1 of the Amendment is a general, contextual  
107 section which does not identify the rights and obligations of the parties.”<sup>11</sup> Though I fail  
108 to see how this makes a difference, even assuming for the sake of argument that Section  
109 2.1 of the Amendment is “general” and “contextual” as Mr. Easton characterizes it, the  
110 context that it provides supports McLeodUSA’s interpretation of the *Amendment*. Mr.  
111 Easton is basically saying that section 2.1 of the *Amendment* should be ignored in  
112 interpreting the *Amendment*. Since Qwest drafted the *Amendment*, I disagree with the  
113 notion that it is reasonable to ignore parts of it that do not support Qwest’s interpretation.  
114 Furthermore, I find it absurd that Mr. Easton would, in support of Qwest’s interpretation  
115 of the *Amendment*, include with his testimony exhibits that expressly indicate that they do  
116 not impact the Parties’ ICAs, yet at the same time, argue that provisions *contained in the*  
117 *Amendment itself* should not be relied upon as written.

118  
119 Second, Mr. Easton claims the mere mention of the DC power plant in the *Amendment* is  
120 not dispositive of this issue because Qwest makes available to McLeodUSA the “as  
121 ordered” amperage associated with its power cable order.<sup>12</sup> Presumably, Mr. Easton is  
122 saying that since Qwest makes the amount of power associated with McLeodUSA’s  
123 power cables available to it, Qwest is justified in assessing the power plant charge on an  
124 “as ordered” basis – despite the *Amendment*. There are a number of things wrong with

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<sup>11</sup> Easton Response, page 10, lines 3-5.

<sup>12</sup> Easton Response, page 10, lines 11-15.

125 Mr. Easton's argument in this regard. For example, I disagree that the Amendment  
126 merely "mentions" power plant capacity. Rather, it defines power plant capacity and its  
127 associated rate as an element to be impacted by the measuring requirements of the  
128 *Amendment*. Indeed, the entire purpose of the *Power Measuring Amendment* was to  
129 change the manner by which the DC power rate elements were being assessed, from an  
130 "as ordered" to an "as measured" basis. Mr. Easton's suggestion that DC power plant is  
131 mentioned in the *Amendment* only to confirm that the rate will reflect the capacity made  
132 available through the order (notice the language does not mention the "ordered amount"  
133 anywhere), simply does not ring true given the overarching purpose of the *Amendment*.

134

135 **Q. WHAT IS MR. EASTON'S THIRD CRITICISM REGARDING YOUR**  
136 **INTERPRETATION OF SECTION 2.1?**

137 A. Mr. Easton claims that McLeodUSA's interpretation is inconsistent because Section 2.1  
138 would require that the DC *Power Measuring Amendment* apply *only* to the Power Plant  
139 charge – a position even McLeodUSA is not taking in this case.<sup>13</sup> Mr. Easton's argument  
140 is a red herring. He is keying off an observation made by the Utah Public Service  
141 Commission Administrative Law Judge who recognized that the Amendment (in Section  
142 2.1) is actually more clear about its requirement to apply the Power Plant charge on a  
143 measured basis, than it is an intention to apply the Usage charge in the same manner (as  
144 Qwest interprets it). While I credit Mr. Easton with attempting to address an issue that is  
145 unsupportive of Qwest's position head-on, his explanation does not make sense. Qwest  
146 and McLeodUSA both agree that *Power Usage greater than 60 Amps* (rate element  
147 8.1.4.1.2.2) should be assessed consistent with measured usage. That is clear from both

148 the *Amendment* when it discusses the Power Usage category as a whole (including both  
149 Power Plant [8.1.4.1.1] and Power Usage [8.1.4.1.2]) as well as from the cost study. That  
150 is not in debate. The only question is whether the Power Plant rate element should be  
151 assessed in the same manner. And, as the Utah ALJ observed, Section 2.1 specifically  
152 defines the rates to be assessed on a measured basis to include the Power Plant rate meant  
153 to recover power plant capacity available to the CLEC.

154

155 **Q. MR. EASTON ALSO ARGUES THAT MCLEODUSA'S INTERPRETATION**  
156 **WOULD REQUIRE THE COMMISSION TO INTERPRET A HEADING**  
157 **WITHIN THE AMENDMENT, AND THAT THE PARTIES'**  
158 **INTERCONNECTION AGREEMENT SPECIFICALLY REJECTS THE NOTION**  
159 **THAT HEADINGS SHOULD HAVE ANY BEARING ON PROPER**  
160 **INTERPRETATION.<sup>14</sup> DO YOU AGREE?**

161 **A.** No, not at all. The "heading" to which Mr. Easton refers is actually the rate category at  
162 Section 8.1.4 of the pricing attachment (Exhibit A) to the Parties' interconnection  
163 agreement. Section 8.1.4 of Exhibit A is entitled "Power Usage" which includes 8.1.4.1  
164 "-48 Volt DC Power Usage." There are five (5) rate elements under -48 Volt DC Power  
165 Usage: Power Plant Greater than 60 Amps (8.1.4.1.1.1), Power Plant Equal to 60 Amps  
166 (8.1.4.1.1.2), Power Plant Less Than 60 Amps (8.1.4.1.1.3), Usage Less Than 60 Amps  
167 (8.1.4.1.2.1), and Usage More Than 60 Amps (8.1.4.1.2.2). The term "-48 Volt DC  
168 Power Usage"(and "AC Usage") is the exact term referred to by the *Amendment* for  
169 which measured usage should apply (see Section 2.2.1 of the *Amendment*).

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<sup>13</sup> Easton Response, page 10, lines 6-11.

<sup>14</sup> Easton Response, page 9.

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Contrary to Mr. Easton's claim, McLeodUSA is not asking the Commission to denote any special interpretive merit to Exhibit A, Section 8.1.4. Instead, McLeodUSA is simply pointing out that the *Amendment* itself identifies *-48 Volt DC Power Usage* as "specified in Exhibit A of the Agreement" as the operative rates to be impacted by the *Amendment* (see Sections 2.1, 2.2 and 2.2.1). The fact that this same exact rate category exists in Exhibit A verbatim, and the fact that this rate category subsumes both the *Usage* and the *Power Plant* charges consistent with the definition in Section 2.1 of the *Amendment*, is worth noting. At a minimum, it must be admitted that a reasonable person reviewing the *Amendment* with those facts in mind, would logically conclude that the *Amendment* provides for measured usage on both of the charges identified under *-48 Volt DC Power Usage*.

**Q. MR. EASTON SUGGESTS THAT BECAUSE THERE IS NO RATE ASSOCIATED WITH SECTION 8.1.4.1 OF EXHIBIT A (ENTITLED *-48 VOLT DC POWER USAGE*), IT IS NOT A SEPARATE RATE ELEMENT, AND SHOULD NOT BE READ TO HAVE ANY EFFECT ON THE LANGUAGE OF THE AMENDMENT.<sup>15</sup> THIS APPEARS TO BE AN EXTENSION OF HIS ARGUMENT THAT 8.1.4 IS A "HEADING" AND IS OF NO SIGNIFICANCE, TO WHICH YOU DISAGREED. DO YOU AGREE WITH THIS ARGUMENT?**

**A.** No. While I agree it is not a separate rate element, it certainly does have significance. As mentioned above, Section 8.1.4.1 entitled *-48 Volt DC Power Usage* is a group of rate

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<sup>15</sup> Easton Response, page 9, lines 13-21.

192 elements that includes five separate rates as follows (the table below is a direct extraction  
193 from the Arizona Exhibit A):

194 **Arizona Exhibit A – Section 8.1.4**

8.1.4	Power Usage		
8.1.4.1	-48 Volt DC Power Usage, per Ampere, per Month		
8.1.4.1.1	Power Plant		
8.1.4.1.1.1	Greater Than 60 Amps		\$10.75
8.1.4.1.1.2	Equal to 60 Amps		\$10.75
8.1.4.1.1.3	Less Than 60 Amps		\$10.75
8.1.4.1.2	Power Usage		
8.1.4.1.2.1	Less Than 60 Amps, per Amp		\$3.64
8.1.4.1.2.2	More Than 60 Amps, per Amp		\$7.27

195  
196 It is of utmost significance because it is the only place in Exhibit A wherein the term -48  
197 Volt DC Power Usage, identified specifically in the Amendment as the rates to be  
198 measured, can be found. At pages 6-7 of his response testimony Mr. Easton states as  
199 follows:

200 Indeed, the term “DC Power Usage Charge” appears five times in the DC  
201 Power Measuring Amendment, with an additional two references to the  
202 “power usage rate” in section 1.2. Because only one rate element has  
203 been explicitly identified in the Amendment, it would be inconsistent  
204 with the language of the Amendment to conclude that it applies to more  
205 than one element, especially a rate element that is never specifically  
206 mentioned in the Amendment.

207  
208 Unfortunately, Mr. Easton’s testimony is only partially accurate. Mr. Easton ignores the  
209 fact that the term “DC Power Usage Charge,” to which he affixes much import, includes  
210 both Power Plant and Usage under Exhibit A. Note that Mr. Easton is trying to equate  
211 the term “DC Power Usage” with the rate element 8.1.4.1.2 “Usage” in Exhibit A.

212 However, as shown in Exhibit A, these terms have distinct meanings with “Usage” being  
213 a rate element(s) under the rate grouping “DC Power Usage” and “-48 Volt DC Power  
214 Usage” referenced in the Amendment (just like the Power Plant rate element 8.1.4.1.1 is).

215 In other words, Mr. Easton attempts to convince the Commission that because the term  
216 “DC Power Usage” is used five times in the Amendment when describing which

217 elements will be measured, it must conclude that only the “Usage” rate element should be  
218 measured, while ignoring the fact that the term “DC Power Usage” has a separate  
219 meaning within Exhibit A (*i.e.*, Usage *and* Power Plant). Accordingly, only the  
220 McLeodUSA interpretation is consistent with the nomenclature of the rate elements in the  
221 underlying ICA.

222  
223 Finally, the *Amendment* discusses an “AC Usage Charge,” which is meant to reflect  
224 “...the power used by the CLEC.” Yet, nowhere in Exhibit A is there a rate element  
225 identified as “AC Usage Charge.” Hence, Mr. Easton’s general claim that the fact that  
226 the *Amendment* mentions the “DC Power Usage Charge” five times somehow adds  
227 credence to Qwest’s interpretation of the *Amendment* is misplaced for numerous reasons.

228

229 **Q. MR. EASTON SPENDS A GOOD DEAL OF HIS RESPONSE TESTIMONY**  
230 **DESCRIBING INFORMATION THAT MAY HAVE BEEN AVAILABLE TO**  
231 **MCLEODUSA PRIOR TO SIGNING THE AMENDMENT – INFORMATION**  
232 **THAT QWEST BELIEVES SHOULD HAVE RESOLVED ANY DIFFERENCE**  
233 **OF OPINION AS IT RELATES TO THE APPLICATION OF THE**  
234 **AMENDMENT.<sup>16</sup> PLEASE COMMENT.**

235 A. Mr. Easton provides Exhibit WRE-1, which is an excerpt from Qwest’s website that he  
236 suggests was available to McLeodUSA prior to signing the *Power Measuring*  
237 *Amendment*. According to Mr. Easton, Exhibit WRE-1 makes Qwest’s intentions clear  
238 that it intended to assess Power Usage charge on an “as measured” basis, and Power Plant  
239 charge on an “as ordered” basis. While I might disagree that the website information is

240 as clear on this point as Mr. Easton would lead us to believe, the entire issue is irrelevant.  
241 The language in the product catalog is specifically different than the language in the  
242 *Power Measuring Amendment*, and since the Parties signed and executed the *Power*  
243 *Measuring Amendment*, it is that language which must be reviewed to understand the  
244 intention of the parties. Again, the *Power Measuring Amendment* defines the “DC Power  
245 Usage Charge” to which measured usage will apply, as “...the power plant available for  
246 the CLEC’s use.” [paragraph 2.1, emphasis added]. On the other hand, the website  
247 information to which Mr. Easton refers discusses a “-48 Volt DC Power Capacity  
248 Charge” which is never mentioned in the *Power Measuring Amendment*, nor can it be  
249 found in Exhibit A (the pricing appendix). Simply put, even if McLeodUSA had viewed  
250 the website information prior to signing the *Amendment*, it would likely have had little  
251 bearing on its interpretation of the *Amendment* which includes very different language.

252

253 **Q. MR. EASTON POINTS THE COMMISSION TO A QUESTION AND ANSWER**  
254 **EXCHANGE BETWEEN QWEST AND ALLEGIANCE TELECOM WHEREIN**  
255 **QWEST NOTES THAT POWER PLANT CHARGES WILL NOT BE ASSESSED**  
256 **RELATIVE TO THE MEASURED LEVEL OF POWER (EXHIBIT WRE-2).**  
257 **SHOULDN'T THIS HAVE CLEARED UP ANY DIFFERENCE OF OPINION**  
258 **BETWEEN THE PARTIES?**

259 **A.** No. First, it is my understanding that this information was not reviewed by  
260 McLeodUSA’s legal or internal cost-control teams who discussed the *Amendment*  
261 internally prior to signing it, nor has McLeodUSA (or Qwest for that matter) been able to  
262 identify anyone at McLeodUSA who saw this information prior to execution of the

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<sup>16</sup> Easton Response, pages 10-15.

263 *Amendment*. One possible reason for this is that this information appears to have been  
264 provided to CLECs generally in October of 2003, approximately one year before  
265 McLeodUSA signed its *Power Measuring Amendment*. Nonetheless, the "Note" at the  
266 bottom of Page 1 of the document states as follows:

Note: In cases of conflict between the changes implemented through this  
notification and any CLEC interconnection agreement (whether based on  
the Qwest SGAT or not), the rates, terms and conditions of such  
interconnection agreement shall prevail as between Qwest and the CLEC  
party.

272  
273 Therefore, according to Mr. Easton's own exhibit, it is irrelevant because McLeodUSA  
274 has in place with Qwest through the *Power Measuring Amendment*, specific, agreed-upon  
275 language that would supersede any terms, conditions and rates derived through the  
276 information in Mr. Easton's exhibit.

277

278 **Q. CONSISTENT WITH YOUR EXPERIENCE IN PARTICIPATING IN CMP**  
279 **PROCESSES OR SIMILAR INDUSTRY MEETINGS, ARE THESE PROCESSES**  
280 **"FLUID" SUCH THAT FREQUENT CHANGES OCCUR RELATIVE TO THE**  
281 **TERMS AND CONDITIONS ASSOCIATED WITH THE INITIATIVES OR**  
282 **POTENTIAL OFFERINGS DISCUSSED THEREIN?**

283 A. Yes, indeed, that is the entire concept behind the Change Management Process. It is not  
284 at all unlikely that information provided a year before a contract amendment is signed  
285 might provide information that was ultimately changed by Qwest in effectuating the final  
286 product. Indeed, another clear example can be found in Mr. Easton's own Exhibit WRE-  
287 2. At pages 1 and 2 of Exhibit WRE-2, Allegiance Telecom's first question asks whether  
288 it will be required to amend its interconnection agreement in order to have its power  
289 measured. Qwest responds that a contract amendment will not be necessary, and the

290 measuring process will begin automatically. Yet, Qwest ultimately decided that a *Power*  
291 *Measuring Amendment* would be necessary. It is that *Power Measuring Amendment*, a  
292 document that was not even considered necessary in the October 2003 response to  
293 Allegiance Telecom's questions, which McLeodUSA signed and serves as the focus of  
294 this complaint. Thus, it seems inconsistent, to say the least, for Mr. Easton to criticize  
295 McLeodUSA for not reviewing information from the CMP 10 months prior to an  
296 amendment that the CMP information itself stated was not going to require an ICA  
297 amendment to implement.

298

299 **Q. DOES YOUR TESTIMONY CONSTITUTE AN ATTACK ON THE**  
300 **COMMISSION'S COLLOCATION POWER RATES?**

301 A. No, my testimony in no way critiques the existing collocation power rates, nor have I  
302 recommended that those rates be changed in any way. Instead, my testimony simply  
303 points out that Qwest's interpretation of the *Power Measuring Amendment* conflicts with  
304 the manner by which the Commission set those rates and, as such, Qwest errs when it  
305 assesses its Power Plant rate on an "as ordered" as opposed to a measured basis.

306

307 **Q. MR. EASTON STATES THAT YOUR DIRECT TESTIMONY WAS NOT ONLY**  
308 **UNSUPPORTED WHEN YOU CLAIM THAT QWEST'S RATE**  
309 **DEVELOPMENT CONFLICTS WITH ITS POSITION, BUT THAT YOU ARE**  
310 **ATTACKING THE RATE ITSELF, NOT ITS APPLICATION.<sup>17</sup> IS HE RIGHT?**

311 A. He is mistaken on both accounts. First, at the time I wrote my direct testimony I did not  
312 have access to Qwest's cost study supporting its Arizona collocation power rates, so I

313 was required to rely upon my general knowledge of Qwest's collocation cost studies in  
314 other states where the cost studies are structured the same.<sup>18</sup> In my supplemental direct  
315 testimony, I was able to show with Arizona-specific data that the points I made in my  
316 May 12, 2006 direct testimony were indeed accurate with respect to Arizona.

317 Secondly, nowhere in my direct testimony did I question the rate level associated  
318 with Qwest's Power Plant rate (or any other rates). What is relevant is that the *Power*  
319 *Measuring Amendment* was specifically intended to revise the manner by which Qwest  
320 would assess its Power Usage rates (both Usage and Power Plant). And, given that the  
321 parties disagree as to which rate elements should be impacted by the *Amendment*, it is a  
322 logical exercise to discern which rate elements can (or should) be assessed in that manner  
323 consistent with their underlying construction.

324

325 **Q. BEGINNING AT PAGE 28 OF HIS RESPONSE TESTIMONY, MR. EASTON IS**  
326 **CRITICAL OF YOUR SUGGESTION THAT QWEST'S POWER REDUCTION**  
327 **AMENDMENT IS NOT A GOOD ALTERNATIVE TO THE POWER**  
328 **MEASURING AMENDMENT WHEN INTERPRETED IN THE PROPER**  
329 **FASHION. PLEASE RESPOND.**

330 A. Mr. Easton's description of the *Power Measuring Amendment* in relation to the Power  
331 Reduction Amendment makes little sense. In essence, Mr. Easton argues that the *Power*  
332 *Measuring Amendment* is meant to allow McLeodUSA to reduce its power usage charges,  
333 while maintaining its initial level of power plant capacity available for its use. On the

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<sup>17</sup> Easton Response, page 27.

<sup>18</sup> Ms. Million states, "...Qwest has applied the power plant rate on an 'as ordered' basis not only in Arizona, but also in Qwest's other states based on the same Qwest collocation cost study..." (emphasis added) Million Response, page 6, lines 18-20.

334 other hand, the Power Reduction Amendment, according to Mr. Easton, allows  
335 McLeodUSA to scale back its original "order" by reducing the size of its power  
336 distribution cables and the size of the fuses that govern the maximum power available to  
337 its equipment (in essence, reducing the amount of power it could draw from the power  
338 plant). According to Mr. Easton, both Amendments are good options for the CLEC,  
339 depending upon the CLEC's objective (*i.e.*, maintaining power plant capacity available  
340 for its use or relinquishing it).

341

342 **Q. WHY DOES THIS MAKE LITTLE SENSE?**

343 A. Mr. Easton's description in this part of his testimony is completely contradictory to Mr.  
344 Ashton's response testimony at page 10. Therein, Mr. Ashton discusses CLEC  
345 collocation orders in the 1999 to 2000 timeframe. Mr. Ashton testifies that when CLECs  
346 were ordering collocation power in 1999 and 2000 (roughly the timeframe wherein the  
347 majority of McLeodUSA collocations in Arizona were established), Qwest had little  
348 knowledge about CLEC equipment and it was receiving orders for large feeder cables  
349 (indicating to Qwest, apparently, the need for substantial power plant capacity). As such,  
350 according to Mr. Ashton, Qwest was forced to engineer its power plant facilities such that  
351 they could support the entire feeder capacity ordered by the CLECs (what Qwest  
352 interpreted to be the CLEC's List 2 drain). Because Qwest was required to size its power  
353 plant investment relative to those orders, Mr. Ashton believes Qwest would fail to  
354 recover those investments if McLeodUSA's interpretation of the *Power Measuring*  
355 *Amendment* was adopted given that McLeodUSA would now be billed based on its  
356 consumption, not on the capacity Qwest allegedly made available for its use.

357

358 **Q. PLEASE DESCRIBE THE INCONSISTENCY BETWEEN MR. EASTON'S AND**  
359 **MR. ASHTON'S TESTIMONIES.**

360 A. Mr. Easton describes the fundamental purpose of the Power Reduction Amendment is for  
361 a CLEC to reduce the amount of power capacity it has available to it. Likewise,  
362 consistent with the terms of the Power Reduction offering, the CLEC after reducing the  
363 size of its cables and its fuses, will be charged less associated with its power plant  
364 capacity (*i.e.*, it will be assessed the Power Plant charge based on the new, smaller  
365 ordered amperage associated with its reduced power delivery system – feeder cables and  
366 fuses). It is this offering that is inconsistent with Mr. Ashton's testimony.

367  
368 **Q. HOW IS IT INCONSISTENT WITH MR. ASHTON'S TESTIMONY?**

369 A. If indeed Mr. Ashton is correct, and Qwest is concerned that reduced Power Plant  
370 recovery relative to McLeodUSA's interpretation of the *Power Measuring Amendment* in  
371 this docket would leave Qwest without the proper opportunity to recover power plant  
372 investments made in the 1999-2000 timeframe relative to CLEC power demands, then he  
373 should have the exact same concern relative to Qwest's own Power Reduction offering as  
374 described by Mr. Easton. In other words, McLeodUSA and other CLECs could, through  
375 the Power Reduction offering, accomplish a similar reduction in their Power Plant  
376 charges, it is just that the Power Reduction Offering would also require them to spend a  
377 large sum of money to inefficiently resize cables and fuses they have already paid to  
378 establish. Nonetheless, Qwest's recovery for DC power plant investment would be  
379 impacted in the same fashion (*i.e.*, it would be substantially reduced).

380 Furthermore, as discussed in detail by Mr. Morrison, Qwest has made clear that it  
381 does not augment its DC power plant relative to the size of a CLEC's order for power

382 feeder cables (nor should it). Hence, Qwest's Power Reduction offering results in the  
383 same outcome as assessing Power Plant charges based on measured usage, except that the  
384 Power Reduction offering requires CLECs to expend thousands of dollars for  
385 unnecessary and risky work related to resizing its cables, while at the same time allowing  
386 Qwest to inappropriately charge McLeodUSA on an "as ordered" (albeit a lower "as  
387 ordered") basis. As such, Mr. Ashton's concern relative to under-recovery due to  
388 previous engineering decisions made by Qwest is not specific to McLeodUSA's  
389 interpretation of the *Power Measuring Amendment*, but is equally applicable to any of  
390 Qwest's reduction amendments that it holds out in this case as an alternative  
391 McLeodUSA could choose. Of course, as Mr. Morrison explains and the facts show, Mr.  
392 Ashton's claims regarding Qwest building additional DC power plant in response to  
393 CLEC orders for feeder distribution cables are completely unsubstantiated and fatally  
394 undermined by Qwest's own engineering technical publications and the history of actual  
395 power plant augmentation that indicate Qwest undertakes no such engineering practice  
396 (i.e., Qwest does not nor did it engineer its power plant equal to the size of CLEC power  
397 feeder cables n- hence, there is no additional investment to recover).

398  
399 **Q. PLEASE ELABORATE ON YOUR POINT THAT QWEST'S POWER**  
400 **REDUCTION OFFERING AND ASSESSING POWER PLANT CHARGES ON A**  
401 **MEASURED BASIS RESULT IN THE SAME OUTCOME EXCEPT FOR THE**  
402 **CHARGES ASSOCIATED WITH QWEST'S POWER REDUCTION OFFERING.**

403 A. The following hypothetical example will help illustrate this point. Assume that a CLEC  
404 originally ordered a 200 amp power cable, the CLEC's usage is 50 amps, and the power  
405 plant capacity of the Qwest central office is 5,000 amps. Under this scenario Qwest

406 assesses the CLEC the Power Plant rate (\$10.75) based on the power cable order (200  
407 amps) for a total monthly Power Plant charge of \$2,150 (I will refer to this as Scenario  
408 1). Now, if we assume that the CLEC decides to use the Power Reduction Offering to  
409 reduce its power cables closer to its usage (75 amp cables, for instance), the following  
410 would occur (I will refer to this as Scenario 2): (1) CLEC would incur several thousands  
411 of dollars in Power Reduction charges; (2) Qwest would begin billing CLEC on 75 amps  
412 (the new cable/breaker size) or \$806.25 per month, (3) CLEC usage remains at 50 amps,  
413 and (4) Qwest would have 5,000 amps of DC power plant capacity. Now if we assume  
414 under Scenario 3 that instead of the Power Reduction Offering, Qwest began billing  
415 CLEC the Power Plant charge on measured usage, the following would occur: (1) Qwest  
416 would begin billing CLEC on 50 amps (the usage) or \$537.50 per month, (2) CLEC  
417 usage remains at 50 amps, and (3) Qwest would have 5,000 amps of power plant  
418 capacity. These three scenarios are summarized as follows:

<b>Impact of Power Reduction Offering vs. Measured Billing</b>			
<b>Assumptions</b>	<b>Scenario 1</b>	<b>Scenario 2</b>	<b>Scenario 3</b>
<b>CLEC power cable order</b>	200 amps	75 amps	200 amps
<b>CLEC usage</b>	50 amps	50 amps	50 amps
<b>Qwest power plant capacity</b>	5,000 amps	5,000 amps	5,000 amps
<b>Qwest Power Plant rate</b>	\$10.75	\$10.75	\$10.75
<b>Rearrangement Costs to CLEC</b>	\$0.00	Thousands of \$\$\$	\$0.00
<b>Monthly DC Power Plant Costs</b>	\$2,150.00	\$806.25	\$537.50

419  
420 As the table shows, the ultimate outcome of both Scenarios 2 and 3 is a reduction in  
421 monthly billing for the Power Plant rate. However, under the Power Reduction offering  
422 (Scenario 2), to achieve this result the CLEC was forced to incur thousands of dollars in  
423 rearrangement fees to reduce its power cable amperage, while under Scenario 3, these  
424 charges were not required, yet the billing was reduced (indeed, it was reduced to the

425 actual usage as required by the *Power Measuring Amendment*, instead of a smaller  
426 ordered amperage that would still be inconsistent with the *Amendment*). Importantly, this  
427 table shows that Qwest did not do anything to the capacity of its DC power plant, since  
428 Qwest has indicated that it does not remove power plant capacity due to CLEC resizing  
429 of power distribution facilities. According to Qwest, it needs to build CLEC power plant  
430 to the ordered level because it makes that amount of capacity available which would go  
431 un-recovered if Power Plant is billed on a measured basis, yet as shown above, the Power  
432 Reduction offering would result in the same 5,000 amp power plant capacity with a lower  
433 Power Plant billing – just as in the case of measured billing – the only difference being  
434 the thousands of dollars in charges CLEC had to incur in unnecessary work to achieve the  
435 result. This work is unnecessary because the costs arise from Qwest rearranging power  
436 cables that McLeodUSA has already bought and paid for through separate recurring and  
437 non-recurring charges.

438

439 **Q. PLEASE ELABORATE ON YOUR POINT THAT MCLEODUSA HAS**  
440 **ALREADY PAID QWEST “SUBSTANTIAL FEES” ASSOCIATED WITH ITS**  
441 **POWER FEEDER CABLES AND THE PLACEMENT OF ITS FUSES.**

442 **A.** When McLeodUSA originally established its physical collocation arrangements within  
443 Qwest’s Arizona central offices, it was assessed non-recurring charges associated with its  
444 DC power feeds and likewise pays a monthly fee associated with those feeds. For  
445 example, in a situation wherein McLeodUSA orders a 200 Amp power feed, it pays  
446 Qwest a non-recurring charge equal to \$9,890.55 (\$3,982.26 if it is ordered with the  
447 initial collocation order) and pays a monthly rate equal to \$14.45 (see Section 8.4.2.7 of

448 Exhibit A).<sup>19</sup> Those charges, according to Qwest's cost study, fully compensate Qwest  
449 for the feeder cables themselves, and the engineering and provisioning labor that went  
450 into placing those cables (and this is in addition to the approximate \$30,000 McLeodUSA  
451 paid to construct its collocation cage). The NRC related to these cables was a substantial  
452 investment on McLeodUSA's part and McLeodUSA is reluctant to re-engineer those  
453 facilities just so it can pay lower Power Plant charges, especially when Qwest's  
454 application of Power Plant charges in direct relation to the size of its feeder cables has  
455 been misplaced since the beginning, and correcting for that improper application would  
456 derive largely the same outcome. It is for this reason that the *Power Measuring*  
457 *Amendment* when first presented to McLeodUSA appeared to be a substantial  
458 improvement in Qwest's overall collocation power offering. Using McLeodUSA's  
459 interpretation, the *Power Measuring Amendment* finally recognized that the sizing of  
460 McLeodUSA's power feeder cables has no correlation to the amount of DC power plant  
461 it will use, and as such, the *Amendment* broke the erroneous correlation between  
462 "ordered" power cable and consumed power that Qwest had previously indoctrinated in  
463 its misapplication of both Power Usage and Power Plant rates.

464  
465 **Q. MR. EASTON (AT PAGES 27-28) FINDS "CURIOUSLY ABSENT" IN YOUR**  
466 **ARIZONA TESTIMONY SOME TESTIMONY YOU FILED IN IOWA**  
467 **REGARDING HOW QWEST INCURS COSTS FOR VARIOUS COMPONENTS**  
468 **OF THE CENTRAL OFFICE POWER SYSTEM. IS THERE A SPECIFIC**  
469 **REASON YOU DID NOT INCLUDE THIS EXACT TESTIMONY IN YOUR**  
470 **ARIZONA TESTIMONY?**

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<sup>19</sup> Exhibit A indicates that a collocation cage includes one 60 amp power feed (see, Section 8.4.2.4).

471 A. Actually, the testimony to which Mr. Easton refers is incorporated in my Arizona  
472 testimony (albeit in different words). My Iowa testimony simply explains the key  
473 difference between power *distribution* and power *plant* in terms of cost causation, and  
474 why billing the Power Plant charge on the amperage associated with a power cable order  
475 is inappropriate (the same position I have taken here in Arizona). Just so that there is no  
476 ambiguity on this issue, I have provided the Iowa testimony that Mr. Easton finds  
477 “curiously absent” below (this testimony is found in my Iowa rebuttal testimony):

478

479 **Q. OBVIOUSLY, YOU BELIEVE THAT QWEST’S POWER**  
480 **PLANT COSTS INCREASE RELATIVE TO THE**  
481 **AMOUNT OF POWER ULTIMATELY CONSUMED BY**  
482 **MCLEODUSA (NOT CONSISTENT WITH THE SIZE OF**  
483 **MCLEODUSA’S ORIGINAL ORDER). WHAT IS THE**  
484 **BASIS FOR YOUR BELIEF?**

485 A. Like Mr. Morrison, I think it is important to break Qwest’s  
486 central office power system into the three distinct components  
487 detailed below in order to distinguish between the manner by  
488 which Qwest incurs cost relative to each (note that Qwest also  
489 recognizes these three categories as it has structured its rates  
490 accordingly).

491  
492

	Category	Qwest Rate Element(s)	Rate Level
1.	Power Delivery	DC Power Cable(s) (8.4.2.5 & 8.4.2.7)	Various depending upon required Amperage
2.	Power Plant	8.1.4.1.1	\$12.17 per Amp
3.	Power Usage	8.1.4.1.3	\$4.37 per Amp

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497

As Mr. Morrison has explained, there is no debate as to the cost causative nature of the DC power cables that connect McLeodUSA to the central office power plant (*i.e.*, Power Distribution/Delivery facilities). It is a simple, physical fact that

498 the actual size of the power cable (and relative cost of the cable)  
499 grows as the amperage to be accommodated by the cable is  
500 increased. Hence, the larger the power cables ordered by  
501 McLeodUSA, then subsequently, the more cost Qwest will incur  
502 in filling the order for DC power distribution cables. As such,  
503 costs related to power cables constituting the power  
504 distribution/delivery system should (and are) assessed based  
505 upon the size of the cables ordered by McLeodUSA (measured  
506 in amps).

507  
508 **Q. WHY THEN, IS THE SAME NOT TRUE FOR EITHER**  
509 **POWER PLANT AND/OR POWER USAGE COSTS?**

510 A. McLeodUSA's original order sizing the cables between its  
511 collocation arrangement and the central office power plant (*i.e.*,  
512 the power distribution/delivery system) has no direct bearing on  
513 the amount of power, or the capacity of the available power plant  
514 McLeodUSA will actually consume. As Mr. Morrison discusses  
515 in detail in his testimony, there are a number of very good  
516 engineering reasons why a company like McLeodUSA may  
517 order very large DC power cables capable of carrying substantial  
518 amperage, yet only consume amperage at levels substantially  
519 below the capacity of those cables.

520  
521 **Q. HOW DOES THIS FACT IMPACT THE COST**  
522 **CAUSATION RELATIONSHIP BETWEEN THE ORDER**  
523 **FOR POWER CABLES, AND THE AMOUNT OF POWER**  
524 **MCLEODUSA MAY ACTUALLY CONSUME?**

525 A. Since there is no relationship between the size of the power  
526 cables originally ordered by McLeodUSA, and the amount of  
527 power it will actually consume (and thereby the capacity of the  
528 power plant it will consume), then there can be no reasonably  
529 construed cost causative relationship between the DC power  
530 cable order and the usage or power plant capacity afforded to  
531 McLeodUSA. Said another way, Qwest does not incur costs  
532 relative to its power plant (or power usage) at the time  
533 McLeodUSA places an order for power cables, rather, Qwest  
534 incurs power plant and power usage costs generated by  
535 McLeodUSA only when, and only to the extent, to which  
536 McLeodUSA actually draws (consumes) power. As such, those  
537 power plant and power usage costs are incremental to  
538 McLeodUSA's actually using power, rather than ordering cables  
539 capable of carrying power.

540  
541 As shown by the excerpt from my Iowa rebuttal testimony, my testimony in Arizona is  
542 fully consistent, and Mr. Easton's curiosity was piqued by a non-issue.

543

544

**Q. AT PAGES 31-32 OF HIS RESPONSE TESTIMONY, MR EASTON DISCUSSES  
THE TESTIMONY OF QWEST'S CLEC AFFILIATE QCC (QWEST  
COMMUNICATIONS CORPORATION) FILED IN ILLINOIS. THEREIN HE  
PROVIDES SEVERAL REASONS THAT PURPORTEDLY DISTINGUISH THIS  
CASE FROM THE CASE IN ILLINOIS. ARE THE REASONS HE PROVIDES  
CONVINCING?**

545

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550

**A. No. The bottom line is that Qwest's CLEC affiliate in Illinois is attempting to protect the  
current process whereby SBC/AT&T-Illinois (the ILEC) is required to assess charges for  
all DC power components (including power plant) on a measured basis. In doing so, it is  
clear that Qwest's CLEC affiliate understands the importance of an economically  
rationale collocation power rate structure, despite the fact that its ILEC affiliate in this  
case is attempting to maintain a non-measured structure for at least its power plant  
component. Nonetheless, I address each of Mr. Easton's individual points below:**

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First, Mr. Easton claims that SBC/AT&T Illinois' proposal "is really a re-fusing proposal, not a power reduction offer."<sup>20</sup> Though this is a distinction without a difference, Mr. Easton's labeling is not overly-accurate. Qwest's Power Reduction offering involves re-fusing, just like in Illinois. Take for example, Qwest's description of the Power Reduction Charge at Section 3.2.2 of the Qwest-proposed DC Power Reduction Amendment Attachment 1 (DC Power Reduction Procedure). This defines the Power Reduction Charge as including "costs associated with reducing the fuse/breaker size." Further, both the Illinois and Arizona proposals involve *reducing* the size of fuse/breaker – a fuse/breaker that is already installed, paid for, and serving CLEC equipment. And, as Mr. Morrison explained at pages 54-57 of his direct testimony, QCC's witness Ms. Hunnicutt-Bishara expressed operational concerns related to reducing fuse/breaker sizes similar to the concerns Mr. Morrison described in his direct testimony. For the same reason, Mr. Easton's criticism at page 32, lines 6-8 is misplaced, as Ms. Hunnicutt-Bishara's stated concerns relate to "low fusing amperage" and associated overload potential, generally, not specifically to a 200% fusing limitation, as Mr. Easton implies.

<sup>20</sup> Easton Response page 31, lines 12-13.

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Second, Mr. Easton states that SBC/AT&T Illinois' re-fusing proposal is mandatory, unlike Qwest's Power Reduction offering which is a voluntary offering.<sup>21</sup> Again, this issue is irrelevant. In Illinois Qwest's affiliate QCC is expressing concerns regarding the outcome of the Illinois proposal, and the correct comparison would be the outcome of the Arizona offering. Obviously, the CLEC would not be re-fusing and lowering the amperage of its power distribution facilities if it were not purchasing Qwest's Power Reduction Offering. Though Mr. Easton is correct that Qwest's Power Reduction is not mandatory, Qwest is holding that offering out as the only manner by which CLECs can reduce their power plant costs which are significantly larger than the power they actually consume (and the costs Qwest incurs to provide the power). This is especially egregious when McLeodUSA has already signed the *Power Measuring Agreement* that provides a different, and more rationale outcome.

Third, Mr. Easton states that "the SBC Illinois proposal would require frequent mandatory re-fusing as usage levels change."<sup>22</sup> However, I fail to see how this departs from Qwest Arizona's Power Reduction offering given that Mr. Easton's own testimony shows that the outcome of the Power Reduction and Power Restoration offerings would be for CLECs to frequently change (both increase and decrease) the size of its power distribution facilities as usage levels change.

Fourth, Mr. Easton's claim that Ms. Hunnicutt-Bishara's legal concern is grounded solely in Illinois-specific rules<sup>23</sup> is wrong. She testified that such an outcome would likely not be in compliance with National Fire Protection Association (NFPA) 70-2005, Article 215.3. Obviously, it would be as important for Qwest to adhere to fire protection standards in Arizona as it would be for SBC/AT&T in Illinois.

Fifth, and perhaps most importantly, Mr. Easton's point with regard to the Illinois rate structure being a combined rate structure (and hence different from Qwest's rate structure) is misplaced.<sup>24</sup>

**Q. WHY ARE MR. EASTON'S CONCERNS ABOUT THE COMBINED NATURE  
OF ILLINOIS' RATE STRUCTURE MISPLACED?**

<sup>21</sup> Easton Response, page 31, lines 13-15.

<sup>22</sup> Easton Response, page 31, lines 15-16.

<sup>23</sup> Easton Response, page 31, line 22 – page 32, line 2.

<sup>24</sup> Easton Response, page 31, lines 16-20.

610 A. Though Mr. Easton largely makes this point in passing, it is an important point for the  
611 Commission to understand. Mr. Easton appears to argue that because the rates for  
612 collocation power in Illinois are combined (*i.e.*, electrical usage and power plant elements  
613 are recovered in a single rate), QCC's comments in Illinois are not overly-applicable  
614 here. Though Mr. Easton is right about the first part - those components are combined in  
615 the Illinois structure - he is wrong about the applicability of such a rate structure in this  
616 case, and this point is specifically relevant here. In Illinois, SBC/AT&T-Illinois is  
617 required to assess the combined rate (both usage and power plant) on a measured basis,  
618 and that is exactly the structure QCC is attempting to protect via its testimony in Illinois,  
619 even though its ILEC affiliate in this case is attempting to argue that such a structure  
620 which assesses Power Plant charges on a measured basis is not valid. Indeed, that  
621 Qwest's position is inconsistent with QCC's position is evident from the argument made  
622 in QCC's post-hearing brief to the Illinois Commerce Commission, wherein QCC argued  
623 that "it is beyond reasonable dispute that, under AT&T's proposal, QCC will pay for  
624 power it is not actually consuming."<sup>25</sup> It is equally beyond reasonable dispute that, under  
625 Qwest's interpretation here, McLeodUSA will pay for power plant it is not actually  
626 consuming. It is just as outrageous in Arizona as QCC found it to be in Illinois.

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628 **III. RESPONSE TO MR. ASHTON**

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630 **Q. AT PAGES 4-5 OF HIS RESPONSE TESTIMONY MR. ASHTON CONTENDS**  
631 **THAT QWEST CANNOT EFFECTIVELY ENGINEER ITS POWER PLANT TO**

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<sup>25</sup> QCC Initial Post-Hearing Brief, p. 6.

632           **ACCOMMODATE A LIST 1 DRAIN FOR CLECS (LIKE IT DOES ITS OWN**  
633           **EQUIPMENT) BECAUSE QWEST DOESN'T HAVE THE REQUISITE**  
634           **INFORMATION. DO YOU AGREE?**

635           A.    No. While Mr. Morrison will address the majority of Mr. Ashton's testimony in this  
636           regard, I would like to address one specific issue: Qwest's own collocation application  
637           belies Mr. Ashton's testimony. McLeodUSA's position is that Qwest should engineer  
638           DC power plant for CLECs in exactly the same fashion it engineers DC power plant for  
639           its own equipment. That is, Qwest should review the telecommunications equipment that  
640           will be powered by the power plant in the central office, evaluate the List 1 Drain  
641           associated with that equipment and ensure that DC power plant capacity is available to  
642           meet that List 1 Drain of the central office. Mr. Ashton's testimony attempts to indicate  
643           that Qwest cannot undertake such a non-discriminatory approach because it does not  
644           know enough about the CLEC collocated equipment. Yet, not only does Mr. Morrison  
645           explain that Qwest knows the List 1 drain for McLeodUSA, but the collocation  
646           application Qwest requires CLECs to populate when ordering collocation space  
647           contradicts his position.

648  
649           **Q.    HOW DOES THE COLLOCATION APPLICATION CONTRADICT MR.**  
650           **ASHTON'S TESTIMONY?**

651           A.    I have attached as Exhibit MS-4 to my testimony a copy of Qwest's collocation  
652           application, as downloaded from Qwest's website.<sup>26</sup> Therein, Qwest requires the CLEC  
653           to provide substantial information not only about the types and quantity of equipment it

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<sup>26</sup>[http://www.qwest.com/wholesale/downloads/2006/060306/DNLD\\_New\\_Change\\_Augment\\_Application\\_V20.xls](http://www.qwest.com/wholesale/downloads/2006/060306/DNLD_New_Change_Augment_Application_V20.xls)

654 will place in its collocation by manufacturer and model number (Section II.F), but also  
655 the forecasted circuits the equipment is expected to support (Section III.B). Likewise,  
656 McLeodUSA is expected to (and does) inform Qwest when its forecasted circuit counts  
657 change (either upward or downward). The following diagram is excerpted directly from  
658 Qwest's collocation application as an example of the information CLECs are required to  
659 provide to Qwest:  
660

**B. CIRCUIT/ICDF COLLOCATION LEG QUANTITY (enter desired quantities)**

		UNEs (See Note 6)	Common Area Splitter (See Note 4)	In-Site Splitter (See Note 5)	Common Area Splitter Collocation (Converted DS0 UNEs - Notes 4 & 6)	In-Site Splitter Collocation (Converted DS0 UNEs - Notes 5 & 6)	Finished Services - Leased Private Lines	Administrative Facilities (See Note 14)	ICDF Collocation (See Note 7)	Total Requested Circuits	Total Required Circuit Legs/Fiber Strands	Minimum Increments
1. Existing/Available Inventory	POTS								0	0	1	
	POTS (Splitter)								0	0	100	
	DS0								0	0	Note 3	
	DS1								0	0	1	
	DS3								0	0	1	
	Fiber (See Note 10)								0	0	6	
2. New/Augment/Reduction	POTS								0	0	1	
	POTS (Splitter)								0	0	100	
	DS0								0	0	Note 3	
	DS1								0	0	1	
	DS3								0	0	1	
	Fiber (See Note 10)								0	0	6	
3. Net Circuit and Leg Counts	POTS						0		0	0		
	POTS (Splitter)		0	0					0	0		
	DS0	0						0	0	0		
	DS1	0				0		0	0	0		
	DS3	0				0		0	0	0		
	Fiber	0							0	0	0	

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662

663 **Q. DOES MCLEODUSA HAVE AN INDEPENDENT INCENTIVE TO ENSURE**  
664 **THAT ITS FORECASTED CIRCUIT COUNTS ARE ACCURATE?**

665 **A.** Yes, because this information is used not only to provide Qwest a forecasted load related  
666 to McLeodUSA's equipment, it also serves as the means by which Qwest provides cross-

667 connect facilities to McLeodUSA's equipment. In other words, if McLeodUSA fails to  
668 properly forecast its anticipated DS0, DS1 and DS3 needs in the table above, it will not  
669 have the cross-connects available between its own facilities and the Qwest network  
670 needed to activate the required circuits (and it would not be able to service its customers).

671

672 **Q. AT PAGE 14 OF HIS RESPONSE TESTIMONY, MR. ASHTON RESPONDS TO**  
673 **MR. MORRISON'S DIRECT TESTIMONY RELATING TO COMMENTS**  
674 **QWEST MADE IN IOWA. DO YOU HAVE ANYTHING TO ADD IN**  
675 **RESPONSE TO MR. ASHTON?**

676 **A.** Yes, I do. In Iowa, a Qwest engineering witness (Mr. Hubbard) whom Mr. Ashton  
677 ultimately replaced, boldly asserted that in any situation wherein a CLEC ordered power  
678 feeder cables equal to 175 Amps or greater, Qwest would have to augment its power  
679 plant and invest in additional equipment. Through cross examination (and my Iowa  
680 rebuttal), it became clear that Mr. Hubbard was terribly wrong. Indeed, it was proven  
681 that even though McLeodUSA had in Iowa placed nearly 20 orders for power feeder  
682 cables larger than 175 amps, Qwest had been required to augment its power plant in only  
683 one of those situations, and that resulted primarily from the fact that Qwest's power plant  
684 in that office was outdated to the point that replacement parts were no longer available.  
685 Mr. Ashton, in an attempt to defend Mr. Hubbard, states as follows at page 14 of his  
686 response testimony:

687 It is my understanding that what the Qwest witness, Mr. Hubbard, meant  
688 by that statement is that the larger the [CLEC power] order, the closer or  
689 more likely Qwest would be to augment its power plant. However, the  
690 more important point here is that any CLEC order for power entitles  
691 Qwest to charge its Commission-approved TELRIC rates. My  
692 understanding of these rates is that they do not necessarily relate to  
693 Qwest's real world experience, and that Qwest is not required to

694 demonstrate that it actually constructed any power plant in response to an  
695 order for it to be entitled to charge those rates.

696 While Mr. Ashton's "spin" on what Mr. Hubbard really meant isn't overly convincing  
697 (given that it is not what Mr. Hubbard said), Mr. Ashton's defense brings forward another  
698 important point. In describing his understanding of Qwest's collocation power rates, I  
699 am disturbed by his erroneous contention that Qwest's collocation rates "do not  
700 necessarily relate to Qwest's real world experience" in engineering central office power  
701 plant. While Total Element Long Run Incremental Cost (TELRIC) often has been  
702 maligned by incumbent carriers as being overly hypothetical and theoretical, the fact of  
703 the matter is that a proper TELRIC study should rely upon the engineering guidelines of  
704 the company in question, the study simply assumes that the Company is acting in an  
705 efficient manner when employing those guidelines (as a company in a more competitive  
706 market would be required to do). And, my review of Qwest's power usage cost study in  
707 this case convinces me that Qwest has followed this very reasonable engineering  
708 approach in establishing its rates.<sup>27</sup>

710

711 **Q. ARE YOU SAYING THAT QWEST'S COST STUDY ASSUMES THAT QWEST**  
712 **SIZES POWER PLANT THE SAME WAY IT DOES IN THE "REAL WORLD" –**  
713 **I.E., BASED ON POWER CONSUMPTION?**

714 **A.** Yes. Qwest's cost study supporting its Power Plant rate assumes batteries, rectifies and  
715 other DC power plant equipment are sized precisely as Qwest would engineer those  
716 facilities in the real world. Further, the cost study assumes that the entire DC power plant

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<sup>27</sup> While I have some concerns about Qwest's cost study that I do not describe here (given that the rate itself is not at issue), Qwest's engineering approach to sizing its power plant appears to be perfectly acceptable.

717 is available equally both to Qwest and collocators – *i.e.*, it is a completely “shared-use”  
718 facility - just as Qwest does in the real world. Indeed, in presenting its cost model, Qwest  
719 stressed the importance of the model’s ability to mimic real world engineering and  
720 situations specific to Arizona. For example, Qwest’s supporting documentation for its  
721 cost study states as follows:

[Qwest’s] CM [Collocation Model] is based on proper economic costing  
principles and TELRIC concepts. The two most important costing  
principles are cost causality (i.e. the accurate attribution of costs to the  
factors that cause those costs to be incurred ) and *realism (i.e. realistic  
assumptions on network engineering design and field conditions)*.<sup>28</sup>

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728 Given this background, Mr. Ashton’s attempt (like Ms. Million’s attempt) to distance  
729 Qwest’s real-world engineering guidelines and practices (described by Mr. Morrison)  
730 from the development of its collocation rates falls short. Indeed, it appears that it is Mr.  
731 Ashton (and later Ms. Million) who are guilty of attacking Qwest’s actual power usage  
732 rate, because the manner by which that rate is constructed is inconsistent with Qwest’s  
733 position in this docket.

734

735 **Q. ISN'T MR. ASHTON SIMPLY ARGUING THAT QWEST DOES NOT**  
736 **NECESSARILY HAVE TO INVEST IN ADDITIONAL POWER PLANT**  
737 **EQUIPMENT RELATIVE TO A PARTICULAR CLEC'S COLLOCATION**  
738 **ORDER BEFORE IT CAN LEGITIMATELY ASSESS ITS COLLOCATION**  
739 **POWER RATES?**

740 **A.** Perhaps, and if so, he is correct. TELRIC studies generally, and Qwest’s study in this  
741 case, recover costs related to investments made to provide services (or elements)

742 generally. In this example, Qwest's Collocation Model assumes that regardless of who  
743 uses the available capacity of the power plant (whether newly installed or not), that party  
744 will bear its *proportional* cost of the power plant output it consumes (assuming it pays the  
745 resultant rates relative to the amount of power it consumes – not as Qwest currently  
746 assesses those charges based upon orders). As such, Mr. Ashton is right (even though his  
747 point contradicts Qwest's position in this case), that individual CLEC orders are ignored  
748 by the cost study because they have no economic bearing on the manner by which Qwest  
749 incurs power plant costs, and as such, assessing power plant rates based upon the size of  
750 those orders is an inconsistent application of the resultant rate.

751

752 **Q. MR. ASHTON CLAIMS THAT MCLEODUSA'S COLLOCATION POLICY**  
753 **WORKS LIKE QWEST'S POWER REDUCTION OFFERING (ASHTON**  
754 **RESPONSE, PAGES 15-16). IS MCLEODUSA'S COLLOCATION POLICY**  
755 **RELEVANT TO THIS PROCEEDING?**

756 A. No. Qwest's policies are at issue in this proceeding, not McLeodUSA's. Therefore, any  
757 reference by Qwest to McLeodUSA's collocation policy is irrelevant and should be given  
758 little, if any, weight by the Commission. However, to set the record straight on this issue,  
759 I submit that Mr. Ashton's comparison is flawed in a number of respects.

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761 **Q. PLEASE ELABORATE ON THE FLAWS IN MR. ASHTON'S TESTIMONY ON**  
762 **THIS POINT.**

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<sup>28</sup> Collocation Model (CM) Users Manual, Version 1, July 2000 (Market Services and Economic Analysis Organization), page 5. emphasis added.

763 A. A comparison between the two really provides no useful information because they are  
764 fundamentally different. For instance, McLeodUSA bills collocators on estimated actual  
765 usage while Qwest bills collocators on the ordered amperage of the power cables. In  
766 other words, McLeodUSA simply asks the collocation applicant for the information that  
767 is needed to properly size its DC Power plant to provide power to the collocator's  
768 equipment, which, as Mr. Morrison explains, is what Qwest should do if it truly cannot  
769 derive a similar number from the plethora of information that McLeodUSA already  
770 provides to Qwest. Second, McLeodUSA has a unified power rate that covers both  
771 power plant and power usage while Qwest has separate rates for each. In this respect, the  
772 McLeodUSA approach to billing collocators for power is akin to the Illinois situation  
773 where collocators are billed a unified rate for plant capacity and usage based on the amps  
774 used, which is what QCC strongly advocated for continuation of in the Illinois case on  
775 collocation power. Third, McLeodUSA has no collocators while Qwest has numerous  
776 collocators including McLeodUSA. Fourth, the DC Power Measuring Amendment only  
777 provides for billing on a usage basis for collocations where more than 60 amps of  
778 distribution cable were originally ordered, and McLeodUSA bills the collocator based on  
779 estimated actual usage for any amount of estimated usage.

780

781 **Q: DO YOU HAVE ANY OTHER COMMENTS REGARDING MR. ASHTON'S**  
782 **CLAIM THAT QWEST COULD NOT REASONABLY ANTICIPATE**  
783 **COLLOCATORS' LIST 1 DRAIN SINCE COLLOCATION WAS NOT**  
784 **INSTALLED UNTIL THE 1999-2000 TIMEFRAME?**

785 **A:** I think it is interesting to note that the Qwest collocation cost study was performed in  
786 2001, well after Mr. Ashton acknowledges many collocations were installed. That means

787 that at the time the rates were developed, Qwest had a significant amount of List 1  
788 operating data based on the power used by the collocators at the time of the study.

789

790 **IV. RESPONSE TO MS. MILLION**

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792 **Q. HAVE YOU HAD AN OPPORTUNITY TO REVIEW THE RESPONSE**  
793 **TESTIMONY OF MS. TERESA MILLION FILED ON JUNE 22, 2006 IN THIS**  
794 **DOCKET?**

795 A. Yes, I have.

796

797 **Q. DO YOU HAVE ANY GENERAL OBSERVATIONS?**

798 A. Yes. The most striking thing about Ms. Million's testimony upon first reading is the  
799 number of times she uses terms like "illogical and meaningless,"<sup>29</sup> "misleading and  
800 meaningless,"<sup>30</sup> and "misleading and illogical"<sup>31</sup> to describe my supplemental testimony.  
801 Yet, when you review the substance of her response, it is very thin with respect to facts or  
802 data that would support her position. Instead, her testimony rests primarily on  
803 unsubstantiated opinion that conflicts with Qwest's technical documentation and the cost  
804 study itself. Nonetheless, she does say a number of things that require a direct response,  
805 including several statements that are wrong as a matter of fact and others that misconstrue  
806 proper cost study development and the FCC's TELRIC rules.

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<sup>29</sup> Million Response, page 3, lines 2-3 and page 14, line 20.

<sup>30</sup> Million Response, page 13, line 6.

<sup>31</sup> Million Response, page 13, line 10.

808 **Q. MS. MILLION QUESTIONS THE RELEVANCE OF THE COST STUDIES TO**  
809 **THIS PROCEEDING. PLEASE EXPLAIN WHY QWEST'S DC POWER COSTS**  
810 **ARE RELEVANT TO THIS PROCEEDING?**

811 A. There are at least two reasons why Qwest's cost study supporting its DC Power rates are  
812 relevant and important to this proceeding. First, Ms. Million specifically, and Qwest  
813 generally, seem to have ignored the fact that McLeodUSA's complaint is two-fold.  
814 McLeodUSA complains that (a) Qwest misinterprets language agreed to by the parties as  
815 to how DC power rates should be assessed and (b) Qwest's interpretation is  
816 discriminatory in that it requires McLeodUSA to pay more for power than Qwest itself  
817 would pay (and, as such, is inconsistent with state and federal law).<sup>32</sup> Analysis regarding  
818 the discriminatory nature by which Qwest assesses its various rates must ultimately be  
819 rooted in proper cost recovery, and the cost study supporting those rates and identifying  
820 the intended cost-recovery mechanisms is the most instructive documentation to aid in  
821 that analysis.

822  
823 Second, the *Power Measuring Amendment* is, by its very nature, a recognition on the part  
824 of Qwest that at least one of its DC Power rate elements (*8.1.4.1.2.2 Usage More than 60*  
825 *Amps*) should be assessed differently than it had been assessed by Qwest in the past (and  
826 perhaps, differently than the manner by which those rates were approved by the  
827 Commission – *i.e.*, the Commission apparently approved Qwest's Usage rate element to  
828 be assessed based upon the size of CLEC orders, yet, Qwest via the *Power Measuring*  
829 *Amendment* agrees such an application is not the best method). In other words, absent the  
830 need for Qwest to recognize that at least rate element 8.1.4.1.2.2 (Usage) should be

831 assessed on a measured basis as opposed to the “as ordered” basis Qwest had used to that  
832 point, there would have been no need for Qwest to offer the *Power Measuring*  
833 *Amendment* in the first place. Further, given Qwest’s recognition that rate element  
834 8.1.4.1.2.2 had been inappropriately applied (presumably in relation to its underlying cost  
835 structure), it is logical to assume that a difference of opinion as to the applicability of the  
836 other DC Power Rate element (8.1.4.1.1.1 *Power Plant*) may also be analyzed by looking  
837 to the underlying cost information upon which the rate was developed. Simply put, the  
838 manner by which costs are measured and the resultant rate is established dictates the  
839 manner by which the rate must be applied (to ensure proper cost recovery), and the cost  
840 study is the first place one should look when questions about proper rate application  
841 arise.

842

843 **Q. IN YOUR RESPONSE ABOVE, YOU INDICATE THAT THE POWER**  
844 **MEASURING AMENDMENT IS A RECOGNITION ON QWEST’S PART THAT**  
845 **AT LEAST ONE OF THE DC POWER RATES SHOULD BE APPLIED**  
846 **DIFFERENTLY THAN IT HAD BEEN APPLIED BY QWEST IN THE PAST.**  
847 **PLEASE EXPLAIN THAT POINT IN MORE DETAIL.**

848 A. At page 5 of her response testimony, Ms. Million states as follows:

849 There is no question that the Power Plant rate has been applied to  
850 CLECs’ power needs on an “as ordered” basis since it was first  
851 implemented in Arizona. Indeed, Qwest’s cost study clearly indicates on  
852 both the Rate Summary tab and the Detailed Summary of Results tab that  
853 Qwest requested, and the Commission approved, that the Power Plant  
854 rate would be charged according to the number of amps specified in  
855 CLECs’ power feed orders. Attached as Exhibit TKM-1 is a printout of  
856 the Detailed Summary of Results for the Arizona Cost Study, including  
857 the comments to each rate element. The comments to the Detailed

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<sup>32</sup> See, e.g., McLeodUSA’s Complaint, filed 2/21/05, page 3 paragraph 11.

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Summary of Results are direct and clear. Qwest stated that its cost study supported a rate for power plant based on the number of amps in a CLEC's power order, and explained that the rate would be assessed on an "as ordered" basis.

Ms. Million's point is that the Power Plant rate has always been assessed on an "as ordered" basis, and that the cost study itself in summarizing the rates, references its application on as "as ordered" basis. Hence, according to Ms. Million, there can be no question that the Power Plant rate must be assessed on an "as ordered" basis. In support of this argument, Ms. Million includes with her testimony Exhibit TKM-1, which is an excerpt from the Arizona Collocation Cost study (excerpted from Excel tab: *A. Detailed Summary of Results*). The following is a direct excerpt from the electronic copy of the cost study, taken from that same tab (and visible on Ms. Million's Exhibit at the top of Page 2):

Arizona Interconnection Services Collocation				
Cost Element	Investment sB r1	TELRIC sB r28	Common sB r38	TELRIC +
				Common
<b>1.4 Power Usage</b>				
<b>1.4.1 Power Plant per Amp Ordered</b>				
Power Plant per Amp Ordered	\$467.71	\$10.4669	\$0.4732	\$10.9400
Power Usage-Less than 60 AMPS per Amp Ordered		\$3.54	\$0.16	\$3.70
Power Usage-More than 60 AMPS per Amp Ordered		\$7.08	\$0.32	\$7.41

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Note that after identifying each of the three Power Usage rate elements, each one is identified as "per Amp Ordered," including "Power Usage-More than 60 Amps." Presumably, this means that Qwest originally intended to assess both the Power Usage

879 and Power Plant charges on an “as ordered” basis (and indeed, that is the way Qwest  
880 assessed those rates prior to the *Power Measuring Amendment*). Yet, even Qwest admits  
881 that the *Power Measuring Amendment* was specifically intended to change the rate  
882 application for at least one of those elements (*Power Usage-More than 60 Amps*) from an  
883 “as ordered” to a measured basis. This then raises an important question: If Qwest  
884 originally intended to apply both of these rate elements on an “as ordered” basis, but  
885 *intentionally* changed the application of at least one of these elements previously  
886 identified “as ordered” to a measured basis, why then is Qwest so insistent that the other  
887 rate element (namely Power Plant) bearing the same instruction should not have also  
888 been changed? I find it curious that Ms. Million can easily accept the fact that the Usage  
889 rate is now billed on a measured basis (seemingly inconsistent with her Exhibit TKM-1),  
890 but strenuously objects to the notion that the Power Plant rate element should be treated  
891 the same – when Qwest originally applied an “as ordered” designation to both of the rate  
892 elements. This inconsistency undermines Ms. Million’s testimony on this topic.

893

894 **Q. IS EXHIBIT TKM-1 MEANINGFUL IN PROVING THAT THE POWER PLANT**  
895 **RATE ELEMENT SHOULD BE ASSESSED ON AN “AS ORDERED” BASIS?**

896 A. No. Again, the specific purpose of the *Power Measuring Amendment* was to change the  
897 manner by which Qwest would assess various power usage charges. That is not in  
898 debate. The only question that is truly in debate is: which elements were to be changed  
899 via the *Amendment*? That question can only be answered by looking both to (a) the  
900 language of the *Power Measuring Amendment* for purposes of gauging the intention of  
901 the parties and (b) looking to the cost study to determine if such a change is appropriate  
902 given the manner by which each rate was developed. In both circumstances, the facts

903 support McLeodUSA's interpretation wherein both the Usage and Power Plant rate  
904 elements should be applied on a measured basis (I discuss the language included in the  
905 *Power Measuring Amendment* in more detail in response to Mr. Easton, see *supra*.  
906 Section II).

907  
908 **Q. MS. MILLION DISAGREES WITH YOUR ANALYSIS WHEREIN YOU**  
909 **CONCLUDE THAT THE COST STUDY, WHEN DEVELOPING THE POWER**  
910 **PLANT RATE, USES *USAGE* AS THE PRIMARY BUILDING BLOCK. PLEASE**  
911 **RESPOND.**

912 **A.** Ms. Million states as follows at page 7:<sup>33</sup>

913 While I do not deny that the label for the divisor (1000) on tab E.1.4  
914 Power Equipment used to calculate the cost per Amp of power plant says  
915 "DC Power Usage," I strongly disagree that it means that the calculation  
916 itself results in a power plant cost based on usage. Nor am I suggesting  
917 that the cost per Amp for power plant is based on "some measure of  
918 power feeder cable size or an assumption related to List 2 drain for  
919 CLEC equipment and List 1 drain for Qwest equipment." The fact is that  
920 none of these *measures* of power has anything to do with the way in  
921 which Qwest calculated the cost per Amp for power plant. Mr. Starkey  
922 has focused his discussion on a label in the cost study that was  
923 admittedly applied imprecisely and has ignored completely the actual  
924 logic and the calculation of cost that results in a per Amp rate for power  
925 plant based on the amount of power plant required to produce a  
926 hypothetical 1000 Amps of power capacity. That calculation has nothing  
927 to do with usage and it has nothing to do with Qwest's embedded costs  
928 associated with its power plant equipment.  
929

930 Frankly, Ms. Million's response makes little sense. While first admitting that the cost  
931 study itself indicates that the total investment is divided by usage to arrive at what  
932 necessarily must, therefore, be a usage-based cost per Amp, she goes on to suggest that  
933 usage was not the basis for per-Amp costs. While Ms. Million's refusal to concede the

934 obvious (*i.e.*, that dividing by usage will produce a usage-based cost per Amp) is  
935 troubling in and of itself, she goes on to admit further that the divisor was not the level of  
936 the CLECs' power cable order (what I would expect to see if Qwest's position were  
937 correct), nor was it List 1 drain or List 2 drain (some level of engineered capacity).  
938 Apparently, Ms. Million is unable to apply any meaning to the 1,000 amps of "usage"  
939 used by the cost study to develop per amp costs, other than to suggest it was consistent  
940 with an overly hypothetical construct required by TELRIC. Following Ms. Million's  
941 argument to its logical conclusion, the 1,000 amps in Qwest's cost study is completely  
942 arbitrary and is without any link to engineering judgment meant to reflect the proper  
943 sizing of power plant equipment. Were that true (which it is not), then the resultant rates  
944 would be arbitrary and without meaning as well, something that, I assume, was not  
945 intended by the Commission in adopting them.

946

947 **Q. EXPLAIN WHY YOU BELIEVE THAT MS. MILLION'S ASSERTION**  
948 **REGARDING THE "HYPOTHETICAL" NATURE OF THE COST STUDY IS IN**  
949 **ERROR?**

950 **A.** Ms. Million rebuts her own argument on the very next page of her testimony (see,  
951 Million Response Testimony, page 8). Therein, she describes the overarching  
952 architecture of the cost study (and specifically, the DC Power Usage rate development)  
953 when she admits that the cost study was built to answer the following question:

954 "How much would the power plant cost on a per Amp basis if I were to model  
955 enough power equipment to produce 1000 Amps of power capacity?"  
956

---

<sup>33</sup> Mr. Ashton makes a similar argument at page 17 of his response testimony.

957 This question informs us that the model was developed using a hypothetical power plant  
958 capable of producing 1,000 amps of power usage (what Ms. Million refers to as capacity  
959 thought the study itself uses the term "usage"). In other words, the power plant modeled  
960 in the cost study will support a level of simultaneous electrical usage equal to 1,000  
961 amps. That is perfectly consistent with the discussion in my Supplemental Direct  
962 Testimony and corroborates the cost study's own terminology wherein, at cells A54 and  
963 B54 (tab: E.1.4 Power Equipment), it identifies the 1,000 amps as "DC Power Usage."  
964 Unfortunately for Qwest, Ms. Million's discussion does not support Qwest's position that  
965 the Power Plant rate should be applied based upon the size of the CLEC's order for  
966 power feeder cables (a variable even Qwest admits has no direct or measurable  
967 correlation to power usage or capacity and is mentioned nowhere in the cost study).

968

969 **Q. AT PAGE 9, MS. MILLION STRESSES THAT NEITHER THE COST STUDY,**  
970 **NOR ANY OF ITS ASSUMPTIONS, HAVE "ANYTHING TO DO WITH THE**  
971 **ACTUAL ELECTRICAL CURRENT THAT ANY TELECOMMUNICATIONS**  
972 **EQUIPMENT IN A CENTRAL OFFICE MIGHT CONSUME." DO YOU**  
973 **AGREE?**

974 **A.** No, I do not. Ms. Million's complete quote is provided below:

975 The point of this discussion is that none of these assumptions has  
976 anything to do with the actual electrical current that any  
977 telecommunications equipment in a central office might consume. The  
978 only "chargeable unit" being developed in Qwest's cost study is the cost  
979 of an Amp of power plant capacity, whether it is based on a hypothetical  
980 power plant configuration with 1000, 500 , or 2000 Amps of capacity.  
981

982 For Ms. Million's statement to be true (and/or Qwest's cost study to be meaningful under  
983 Ms. Million's assertion), Qwest would have to build its power plant (*i.e.*, plan and

984 construct the size of its DC Power equipment), without any regard to the amount of usage  
985 it is required to accommodate. That is, there would have to be no linkage between the  
986 size of the power plant “capacity” to which Ms. Million refers, and the anticipated usage.  
987 Indeed, Ms. Million made this very point at page 10 of her response testimony in  
988 Washington when she stated that:

989           ...the 1000 Amps of DC Power Usage assumed in Qwest’s cost study is  
990           really an assumption about the total capacity available from a given  
991           amount of power equipment and has no correlation to the actual amount  
992           of electrical current consumed by telecommunications equipment....  
993           [emphasis added]  
994

995 Ms. Million’s contention that the capacity of the power plant is completely detached from  
996 the anticipated electrical usage it will support is simply untrue. Indeed, if Ms. Million’s  
997 description of the cost study were accurate, then the cost study diverges dramatically  
998 from Qwest’s own engineering practices, as embodied in Qwest Technical Publications,  
999 wherein it states that Qwest sizes its power plant equipment according to the List I drain  
1000 (*i.e.*, peak usage) for all equipment in the central office, and then constructs its power  
1001 plant sufficient to accommodate that level of usage. Simply put, regardless of Ms.  
1002 Million’s assertions to the contrary, there is a direct and meaningful correlation between  
1003 electricity consumed by the telecommunications equipment in the central office, and the  
1004 resultant size of the power plant (both in the real world and in the cost study). That is  
1005 exactly why the cost study uses the term “usage” when identifying the 1,000 amps of  
1006 power plant capacity. In other words, contrary to Ms. Million’s contention, there is no  
1007 “imprecision” in the cost study when it uses the term usage for purposes of developing a  
1008 “per Amp” rate, instead, there is simply an error in Ms. Million’s description of the cost

1009 study as she tries desperately to bend the study to comport with Qwest's position in this  
1010 case.

1011

1012 **Q. IF WE ASSUME YOU ARE CORRECT AND THERE IS A DIRECT**  
1013 **CORRELATION BETWEEN USAGE AND THE SIZE OF THE POWER PLANT,**  
1014 **WOULD QWEST'S COST STUDY THEN MAKE SENSE AND BE CONSISTENT**  
1015 **WITH ITS STATED ENGINEERING PRACTICES?**

1016 A. Yes, it would. It would not, however, support Qwest's position in this proceeding  
1017 because it makes clear the fact that Qwest, in the cost study, divided its total power plant  
1018 investment by a measure of its usage, and as such, the only logical application of the  
1019 resultant rate would be to a measure of the CLEC's usage (not the size of the CLEC's  
1020 power cable order). The substantial information provided by McLeodUSA showing that  
1021 there *is* a direct correlation between power plant capacity and usage, in both the real  
1022 world and in Qwest's cost studies, seriously undercuts Qwest's theory in this case, and  
1023 appears to be the driving force behind Ms. Million's characterization of the cost study as  
1024 overly hypothetical and completely detached from Qwest's actual operations.

1025

1026 **Q. DO YOU AGREE WITH MS. MILLION'S ASSERTIONS REGARDING THE**  
1027 **HYPOTHETICAL NATURE OF THE COST STUDY?**

1028 A. No. At page 13 Ms. Million testifies as follows:

1029 The FCC's TELRIC rules require Qwest to develop costs on the basis of  
1030 a hypothetical, forward-looking network. This means that regardless of  
1031 the existing network that Qwest has in place, or the costs that it will or  
1032 has incurred for that embedded network, Qwest is entitled to charge  
1033 CLECs for access to its network (including DC power) so long as it does  
1034 so using TELRIC compliant rates.

1035

1036 With this explanation, Ms. Million attempts to convince us that the cost study is not, and  
1037 should not be, based upon Qwest's own engineering guidelines (including guidelines that  
1038 require DC power plant capacity to be based upon List 1 Drain – or peak usage). Instead,  
1039 according to Ms. Million, TELRIC requires some abstract network that is so “forward  
1040 looking” as to be hypothetical. She is mistaken and Qwest's own cost study refutes her  
1041 testimony.

1042

1043 **Q. PLEASE EXPLAIN.**

1044 A. It is clear from discovery responses provided by Qwest in Iowa in relation to its cost  
1045 study (and made available here by agreement of the parties), that Qwest's cost study  
1046 assumes the use of the same DC power equipment Qwest actually employs in its network,  
1047 and Qwest assumes in the cost study that the equipment is used exactly as it would be in  
1048 the field. Likewise, the model uses actual invoices and purchase order data to reflect its  
1049 investment in this type of equipment. Moreover, Mr. Ashton (Qwest's point witness on  
1050 engineering issues) admitted in a similar Utah proceeding that he served as the  
1051 engineering subject matter expert on the cost study and personally validated the  
1052 engineering assumptions used therein. Hence, while Ms. Million would like us to believe  
1053 that the cost study bears no resemblance to Qwest's actual network design, her testimony  
1054 is inconsistent with this other evidence from Qwest. While it is true that TELRIC cost  
1055 studies may become somewhat hypothetical in employing the forward looking  
1056 requirement of TELRIC (*e.g.*, assumptions that the network contains 100% digital  
1057 switches even though analog switches still exist), no such assumptions impact Qwest's  
1058 DC Power cost study. Indeed, there is no particular “forward looking” technology  
1059 substitution evident at all in Qwest's DC power study that I can discern; batteries,

1060 rectifiers, re-generation equipment, etc. are all equipment used by Qwest in its actual  
1061 power plant. Nonetheless, even if Ms. Million's concerns had any basis in fact (which  
1062 they do not), she has the theory wrong as well. "Forward looking" assumptions required  
1063 by TELRIC are best implemented by using the company's engineering documentation  
1064 aimed at making its operations optimally efficient. And, in this case, Qwest's Technical  
1065 Publications (as explained by Mr. Morrison) dictate the proper sizing of DC power plant.  
1066 As such, if Qwest's cost studies intentionally ignored Qwest's engineering  
1067 documentation related to sizing its DC power plant based upon a measure of usage (*i.e.*,  
1068 List 1 Drain), as Ms. Million contends, the cost study would be a poor estimate of  
1069 Qwest's TELRIC costs. Fortunately, that is not the case.

1070

1071 **Q. CAN YOU PLEASE SUMMARIZE THE IMPORTANCE OF THE DISCUSSION**  
1072 **ABOVE?**

1073 **A.** Yes. Ms. Million argues that the cost study uses a "hypothetical" 1,000 amps of capacity,  
1074 and as such, the 1,000 amps provides little insight into whether the rate should be applied  
1075 on an ordered or consumed basis (because she believes the cost study is simply being  
1076 "imprecise" when it refers to the 1,000 amps as "usage"). However, her arguments ring  
1077 hollow in light of the fact that power plant capacity is purposefully sized, according to  
1078 Qwest's own technical documents, in relation to the amount of usage anticipated by the  
1079 office at peak demand under normal operating conditions (List 1 drain). Hence, in this  
1080 circumstance, "capacity" and "usage" are somewhat synonymous. Though perhaps not  
1081 represented by a 1:1 correlation, the fact is that were more usage anticipated in the office,  
1082 additional power plant would have to be placed and, likewise, were less usage  
1083 anticipated, less power plant would be placed. As such, the power plant investment is

1084 incremental to the amount of engineered usage, so when the cost study uses usage as the  
1085 basis for calculating per-amp rates (or total investment divided by usage), the process is  
1086 both logical and determinative. However, in order for Qwest to realize proper cost  
1087 recovery, the resultant rate must be applied to usage as I have described throughout my  
1088 testimony, and not some unrelated CLEC order for power feeder cables (which even Ms.  
1089 Million admits plays no role in developing the rates).

1090

1091 **Q. MS. MILLION TAKES ISSUE WITH THE TABLE INCLUDED IN YOUR**  
1092 **SUPPLEMENTAL TESTIMONY.<sup>34</sup> PLEASE RESPOND.**

1093 **A.** Ms. Million's primary criticism is as follows:

1094 The following simple mathematical example will make obvious the  
1095 fallacy of Mr. Starkey's analysis. If the investment in power equipment  
1096 necessary to make available 1000 Amps of power plant capacity is  
1097 \$448,000 and that amount is divided by 1000 Amps of hypothetical  
1098 capacity, then the investment per Amp is \$448. Further, if, as Mr.  
1099 Starkey states in his testimony, actual usage is "only about 18.3% of the  
1100 capacity," then actual usage would be 183 Amps. It is easy to see that  
1101 183 Amps used times \$448 per Amp equals \$81,984, an amount that is  
1102 far short of the original power plant investment of \$448,000.

1103

1104 To borrow a term from Ms. Million, her analysis is, at best, "misleading." To make her  
1105 example work, Ms. Million is forced to mix the concept of capacity as it relates to the  
1106 power plant, with the capacity of the power feeder cables. To do so, she uses an excerpt  
1107 from my testimony in a fashion that shows either a gross misunderstanding of the issue,  
1108 or a willingness to obfuscate the facts. Consider the following line from her testimony:

1109 Further, if, as Mr. Starkey states in his testimony, actual usage is "only  
1110 about 18.3% of the capacity," then actual usage would be 183 Amps. It  
1111 is easy to see that 183 Amps used times \$448 per Amp equals \$81,984,  
1112 an amount that is far short of the original power plant investment of  
1113 \$448,000.

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<sup>34</sup> Million Response, pages 9-10.

1114  
1115 In my testimony when I refer to usage being only 18.3% of the capacity, I am quite  
1116 clearly referring to the capacity of the feeder cables (which Qwest interprets as the  
1117 CLEC's power order), NOT the capacity of the power plant. In other words, on average  
1118 in Arizona, McLeodUSA's power usage equates to only 18.3% of the capacity of its  
1119 power feeder cables, not 18.3% of the power plant capacity. As such, when Ms. Million  
1120 erroneously translates this percentage into power plant usage (*i.e.*, 183 Amps out of  
1121 1,000), it is no wonder that her analysis shows under recovery: the analysis is  
1122 nonsensical. In my example, the capacity of the power plant does not change, and still  
1123 has 1,000 amps of available power, regardless of McLeodUSA power "order," because  
1124 the available capacity is only impacted by McLeodUSA's usage. And that is the point.  
1125 The size of McLeodUSA's order for power feeder cables bears no real or meaningful  
1126 relationship to the capacity of Qwest's DC power plant that McLeodUSA will consume  
1127 at a given point in time, and as such, should have no bearing on sizing the power plant or  
1128 contributing toward recovering its costs (a point with which Qwest's technical  
1129 documentation agrees). Because, as explained by Mr. Morrison, Qwest engineers the size  
1130 of its DC power plant consistent with the List 1 drain for the entire central office, it is  
1131 McLeodUSA's actual usage, in combination with the usage of all other central office  
1132 inhabitants (including Qwest), that contributes to that List 1 drain at the central office  
1133 busy hour/busy day, and dictates the size of the power plant. Therefore, because the  
1134 power plant is sized based upon an estimate of usage, usage serves as the only  
1135 appropriate basis upon which to recover power plant costs, and it is the only way to  
1136 ensure that each power consumer pays for that portion of the power plant capacity it uses.

1137 The cost study recognizes this point in that it divides total power plant investment by  
1138 usage to arrive at per amp costs.

1139

1140 **Q. AT PAGE 10 OF HER RESPONSE, MS. MILLION CONTENDS THAT IT**  
1141 **WOULD BE IMPOSSIBLE FOR QWEST TO ESTIMATE AN AVERAGE COST**  
1142 **RELATIVE TO ITS POWER PLANT BECAUSE THE USAGE EFFECTUATED**  
1143 **BY THE POWER PLANT FLUCTUATES AND IS NOT EASY TO PREDICT. DO**  
1144 **YOU AGREE?**

1145 A. No, not at all. Ms. Million's point here appears to be that a cost study meant to recover  
1146 power plant costs based on usage would be impossible to construct because Qwest does  
1147 not know how much of the power plant's capacity will actually be used on average.  
1148 Again, she is mistaken. Ms. Million's background indicates that she has substantial  
1149 experience in developing telecommunications cost studies. Therefore, the concept of a  
1150 fill factor should be familiar to her. Cost studies routinely employ fill factors wherein the  
1151 actual consumption of an element does not equate to its total capacity (*i.e.*, the element is  
1152 never quite fully utilized – a very common scenario).<sup>35</sup> Consider the following example,  
1153 wherein the capacity of an element equals 12 units, yet consumption generally averages  
1154 only 10 units. In this circumstance, cost studies routinely divide the total investment for  
1155 the 12 units by the 10 units that are used on average so as to ensure proper cost recovery  
1156 on an average, per unit basis (illustrated below):

---

<sup>35</sup> Consider, for example, a Qwest digital switch. Qwest's digital switches have enormous capacity that is never fully utilized (by design). Instead, some average level of usage is studied for purposes of developing per minute switching costs. The same concept applies here in a much less complicated form. If Qwest is able to derive average switch usage patterns and thereby develop average per-minute costs, it has the wherewithal to easily solve a similar problem related to its less complex power plant facilities.

1157

1158

**Fill Factor Adjustment**

1159

a	Total Capacity	12	units
b	<b>Cost of Total Capacity</b>	<b>\$100</b>	assumption
c	Average Consumption	10	units
d	Fill-Adjusted Per Unit Costs	\$10	(\$100/10)
e	<b>Demand * Unit Price (Recovery)</b>	<b>\$100</b>	(10 * \$10)
e	Fill Factor	83%	(10/12)

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This concept is easily applied to Qwest's power plant wherein its actual measured usage often falls below the List 1 drain by which it is sized. And, contrary to Ms. Million's testimony, I am informed that the actual usage on the power plant is something that is tracked routinely by power engineers for purposes of managing the power plant and for purposes of analyzing the need for potential augmentation. Hence, her unsubstantiated claim that it would be "impossible" for Qwest to estimate an average cost per Amp for power plant is simply wrong.

**Q. MS. MILLION ALSO TAKES ISSUE WITH YOUR TABLE INCLUDED AT PAGE 6 OF YOUR SUPPLEMENTAL TESTIMONY. SHE SUGGESTS THAT QWEST WOULD HAVE INCREASED THE SIZE OF ITS POWER PLANT CAPACITY TO MEET THE ORDERS AND HENCE, TOTAL POWER PLANT CAPACITY IN THE TABLE SHOULD HAVE INCREASED ACCORDINGLY. DO YOU AGREE?**

**A.** No. Arizona is the fourth state (Iowa, Utah and Washington being the first, second and third) wherein this case will go to hearing and substantial testimony has been filed by both parties. Nowhere in any of those proceedings (including this one), has Qwest

1181 provided even one piece of data indicating that it actually sizes its power plant capacity to  
1182 accommodate the power required to fully load a CLEC's power feeder cables (*i.e.*,  
1183 consistent with what Qwest refers to as the "power order"). The information that is  
1184 available in this record and the records of those other proceedings as to how Qwest sizes  
1185 its power plant capacity are Qwest's technical documentation and the testimony of Mr.  
1186 Ashton (and Qwest witness Mr. Hubbard before him), all of which suggest that power  
1187 plant should be sized based on the List 1 drain for the entire central office. Mr. Ashton  
1188 himself, in Utah, testified that if Qwest knew the List 1 drain for McLeodUSA's  
1189 equipment (information that is available to Qwest), it should use that information, and  
1190 NOT the size of McLeodUSA's feeder cables, to size its power plant. As such, Ms.  
1191 Million's complaint simply is not based in fact. The truth of the matter is that Qwest  
1192 does not appear to augment its power plant in relation to the CLEC's "order" relative to  
1193 power feeder cables, and hence, the CLECs' orders shown at page 6 of my supplemental  
1194 direct testimony would not require additional power plant capacity as long as the existing  
1195 capacity (in this example 1,000 amps) was sufficient to accommodate McLeodUSA's  
1196 anticipated usage (100 amps). Therefore, my table is accurate and Ms. Million's claims  
1197 to the contrary are based upon what appears to be her misunderstanding of Qwest's actual  
1198 engineering practices.

1199

1200 **Q. SHOULD THE COMMISSION BE CONCERNED THAT QWEST IS NOT**  
1201 **PAYING ANYTHING FOR ITS OWN USAGE OF DC POWER PLANT?**

1202 **A.** Yes, I would think there is a significant likelihood that Qwest is substantially over  
1203 recovering DC Power Plant costs to the point that it is recovering the entire cost of DC

1204 Power plant contemplated by the cost study from CLECs, and therefore, is getting DC

1205 Power plant to serve its own customers basically for free.

1206

1207 **Q. PLEASE EXPLAIN.**

1208 A. We know that there are multiple collocators in many Arizona central offices, and we  
1209 know that List 1 drain is somewhere around 40% of List 2 drain. By charging each  
1210 collocator at the List 2 drain associated with its power cable order, while sizing its power  
1211 plant, and therefore, incurring cost, at List 1 drain, it takes only a few orders for  
1212 distribution cables from CLECs before Qwest recoups the entire cost of the power plant  
1213 from CLECs, which necessarily means that Qwest, the largest power user in the CO,  
1214 essentially gets DC power for free.

1215

1216 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

1217 A. Yes.

Rebuttal Testimony of Michael Starkey  
ACC Docket Nos. T-03267A-06-0105/  
T-01051B-06-0105

## Exhibit MS-2

# Power Measuring Amendment

**DC Power Measuring Amendment  
to the Interconnection Agreement between  
Qwest Corporation and  
McLeodUSA Telecommunications Services, Inc.  
for the State of Arizona**

This Amendment ("Amendment") is to the Interconnection Agreement between Qwest Corporation (f/k/a U S WEST Communications, Inc.) ("Qwest"), a Colorado corporation, and McLeodUSA Telecommunications Services, Inc. ("CLEC"), an Iowa corporation.

**RECITALS**

WHEREAS, the Parties entered into an Interconnection Agreement, for service in the state of Arizona, that was approved by the Arizona Corporation Commission on December 14, 2000, as referenced in Docket No. T-01051B-00-0698, Decision No. 63248 ("Agreement"); and

WHEREAS, the Parties wish to amend the Agreement under the terms and conditions contained herein.

**AGREEMENT**

NOW THEREFORE, in consideration of the mutual terms, covenants and conditions contained in this Amendment and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

**Amendment Terms**

The Agreement is hereby amended by adding the terms, conditions and rates for DC Power Measuring, as set forth in Attachment 1, attached hereto and incorporated herein.

**Effective Date**

This Amendment shall be deemed effective upon Commission approval; however, the Parties may agree to implement the provisions of this Amendment upon execution. To accommodate this need, CLEC must generate, if necessary, an updated Customer Questionnaire. In addition to the Questionnaire, all system updates will need to be completed by Qwest. CLEC will be notified when all system changes have been made. Actual order processing may begin once these requirements have been met. Additionally, Qwest shall implement any necessary billing changes within two (2) billing cycles after the latest execution date of this Amendment, with a true-up back to the latest execution date of this Amendment by the end of the second billing cycle. The Parties agree that so long as Qwest implements the billing changes and the true-up as set forth above, the CLEC's bills shall be deemed accurate and adjusted without error.

**Amendments: Waivers**

Except as modified herein, the provisions of the Agreement shall remain in full force and effect. The provisions of this Amendment, including the provisions of this sentence, may not be amended, modified or supplemented, and waivers or consents to departures from the provisions of this Amendment may not be given without the written consent thereto by both Parties' authorized representative. No waiver by any Party of any default, misrepresentation, or breach

August 2, 2004/med/McLeodUSA/DC Power Measuring/AZ  
Amendment to CDS-000714-0097

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of warranty or covenant hereunder, whether intentional or not, will be deemed to extend to any prior or subsequent default, misrepresentation, or breach of warranty or covenant hereunder or affect in any way any rights arising by virtue of any prior or subsequent such occurrence.

**Entire Agreement**

The Agreement as amended (including the documents referred to herein) constitutes the full and entire understanding and agreement between the Parties with regard to the subjects of the Agreement as amended and supersedes any prior understandings, agreements, or representations by or between the Parties, written or oral, to the extent they relate in any way to the subjects of the Agreement as amended.

The Parties intending to be legally bound have executed this Amendment as of the dates set forth below, in multiple counterparts, each of which is deemed an original, but all of which shall constitute one and the same instrument.

**McLeodUSA Telecommunications Services, Inc.**

James E. Thompson  
Signature

James E. Thompson  
Name Printed/Typed

GVP, General Counsel and Secretary  
Title

August 17, 2004  
Date

**Qwest Corporation**

L. T. Christensen  
Signature

L. T. Christensen  
Name Printed/Typed

Director - Interconnection Agreements  
Title

8/18/04  
Date

## ATTACHMENT 1 DC Power Measuring

### 1.0 Monitoring

1.1 CLEC orders DC power in increments of twenty (20) amps whenever possible. If CLEC orders an increment larger than sixty (60) amps, engineering practice normally terminates such feed on a power board. If CLEC orders an increment smaller than or equal to sixty (60) amps, the terminations will normally appear on a Battery Distribution Fuse Board (BDFB).

1.2 If CLEC orders sixty (60) amps or less, it will normally be placed on a BDFB where no monitoring will occur since the power usage rate reflects a discount from the rates for those feeds greater than sixty (60) amps. If CLEC orders more than sixty (60) amps of power, it normally will be placed on the power board. Qwest will monitor usage at the power board on a semi-annual basis. However, Qwest also agrees to take a reading within thirty (30) Days of a written CLEC request, after CLEC's installation of new equipment. Qwest will perform a maximum of four (4) readings per year on a particular collocation site. Based on these readings, if CLEC is utilizing less than the ordered amount of power, Qwest will reduce the monthly usage rate to CLEC's actual use. If CLEC is utilizing more than the ordered amount, Qwest will increase the monthly usage rate to the CLEC's actual use. Until such time that CLEC places equipment and a request is received from CLEC to monitor, Qwest will bill CLEC based on the amount of power ordered. Once Qwest receives a CLEC monitoring request, it will bill the actual power usage rate from the date of the CLEC's monitoring request until the next reading. The next reading date may be generated as a result of the CLEC request or a Qwest routine reading and Billing will be adjusted on whichever date comes first.

### 2.0 Rate Elements - All Collocation

2.1 -48 Volt DC Power Usage and AC Usage Charges. Provide -48 volt DC power to CLEC collocated equipment and is fused at one hundred twenty-five percent (125%) of request. The DC Power Usage Charge is for the capacity of the power plant available for CLEC's use. The AC Usage Charge is for the power used by CLEC. Both the DC Power Usage Charge and the AC Usage Charge are applied on a per ampere basis.

2.2 The -48 Volt DC Power Usage Charge is specified in Exhibit A of the Agreement and applies to the quantity of -48 Volt Capacity specified by the CLEC in its order.

2.2.1 -48Volt DC Power Usage Charge - Applies on a per amp basis to all orders of greater than sixty (60) amps. Qwest will initially apply the -48 Volt DC Power Usage Charge from Exhibit A of the Agreement to the quantity of power ordered by CLEC. Qwest will determine the actual usage at the power board as described in Section 1.2. There is a one (1) amp minimum charge for -48 Volt DC Power Usage.

2.3 CLEC rates for Collocation must be included in CLEC's existing Interconnection Agreement with Qwest prior to amending with DC Power Monitoring (Measuring) Amendment.

## Exhibit MS-3

### Pricing Appendix (Exhibit A)

**Exhibit A  
Arizona\***

Select the appropriate type of contract below. For cost docket changes, leave blank:				EAS / Local Traffic Reciprocal Compensation Election			Notes		
New				Options					
				Recurring	Recurring, per Mile	Non- Recurring	REC	REC per Mile	NRC
				Wholesale Discount Percentage Recurring Charges		Wholesale Discount Percentage Nonrecurring Charges			
<b>6.0</b>	<b>Resale</b>								
<b>6.1</b>	<b>Wholesale Discount Rates, does not apply to Service Quality Credits</b>								
6.1.1	Basic Exchange Residential Line Service			12%		18%	A		A
6.1.2	Basic Exchange Business Line Service			18%		18%	A		A
6.1.3	All other Qwest's Telecommunications Services			18%		18%	A		A
6.1.4	Product Specific Nonrecurring Charge					18%			A
6.1.5	Public Access Line (PAL) Service			18%		18%	A		A
<b>6.2</b>	<b>Customer Transfer Charge (CTC)</b>								
6.2.1	CTC for POTS Service, per Line								
6.2.1.1	Residence					\$5.00			5
6.2.1.2	Business					\$5.00			5
6.2.1.3	ISDN					\$5.00			5
6.2.2	CTC for Private Line Transport Services								
6.2.2.1	First					\$41.05			5
6.2.2.2	Each Additional					\$41.05			5
6.2.3	CTC for Advanced Communications Services, per circuit					\$51.57			5
<b>7.0</b>	<b>Interconnection Facility Options</b>								
<b>7.1</b>	<b>Entrance Facilities</b>						6		
7.1.1	Intentionally Left Blank								
7.1.2	DS1			\$89.42		\$256.87	C		C
7.1.3	DS3			\$357.16		\$256.87	C		C
<b>7.2</b>	<b>LIS EICT</b>								
7.2.1	Per DS1			\$0.00		\$0.00	A		A
7.2.2	Per DS3			\$0.00		\$0.00	A		A
<b>7.3</b>	<b>Direct Trunked Transport</b>						6		
7.3.1	DS0								
7.3.1.1	Over 0 to 8 Miles			\$52.27	\$0.00		A	A	
7.3.1.2	Over 8 to 25 Miles			\$52.27	\$0.00		A	A	
7.3.1.3	Over 25 to 50 Miles			\$52.27	\$0.00		A	A	
7.3.1.4	Over 50 Miles			\$52.27	\$0.00		A	A	
7.3.2	DS1								
7.3.2.1	Over 0 to 8 Miles			\$35.98	\$0.65		C	C	
7.3.2.2	Over 8 to 25 Miles			\$35.99	\$0.94		C	C	
7.3.2.3	Over 25 to 50 Miles			\$36.00	\$1.75		C	C	
7.3.2.4	Over 50 Miles			\$36.00	\$1.59		C	C	
7.3.3	DS3								
7.3.3.1	Over 0 to 8 Miles			\$243.17	\$13.32		C	C	
7.3.3.2	Over 8 to 25 Miles			\$246.16	\$15.90		C	C	
7.3.3.3	Over 25 to 50 Miles			\$250.66	\$22.91		C	C	
7.3.3.4	Over 50 Miles			\$249.26	\$22.49		C	C	
<b>7.4</b>	<b>Multiplexing</b>								
7.4.1	DS1 to DS0			\$200.08		\$268.62	A		5
7.4.2	DS3 to DS1			\$228.05		\$263.87	A		A
<b>7.5</b>	<b>Trunk Nonrecurring Charges</b>								
7.5.1	DS0 Interface								
7.5.1.1	First Trunk					\$7.60			A
7.5.1.2	Each Additional Trunk					\$7.60			A
7.5.1.3	Disconnect					\$0.53			A
7.5.2	DS1 Interface								
7.5.2.1	First Trunk					\$7.60			A
7.5.2.2	Each Additional Trunk					\$7.60			A
7.5.2.3	Disconnect					\$0.53			A
7.5.3	DS3 Interface								
7.5.3.1	First Trunk					\$7.60			A
7.5.3.2	Each Additional Trunk					\$7.60			A
7.5.3.3	Disconnect					\$0.53			A
<b>7.6</b>	<b>Exchange Service (EAS/Local) Traffic</b>								
7.6.1	End Office Call Termination, per Minute of Use			\$0.00097			C		
7.6.2	Tandem Switched Transport, per Minute of Use			\$0.000550			B		

**Exhibit A  
Arizona\***

		Recurring	Recurring, per Mile	Non-Recurring	REC	REC per Mile	NRC
<b>7.6.3</b>	<b>Tandem Transmission</b>						
7.6.3.1	Over 0 to 8 Miles	\$0.00079	\$0.00		B	B	
7.6.3.2	Over 8 to 25 Miles	\$0.00079	\$0.00		B	B	
7.6.3.3	Over 25 to 50 Miles	\$0.00079	\$0.00		B	B	
7.6.3.4	Over 50 Miles	\$0.00079	\$0.00		B	B	
<b>7.7</b>	<b>Local Traffic-FCC-ISP Rate Caps</b>						
7.7.1	MOU as of June 14, 2003, rates in effect until further FCC Action	\$0.0007			4		
<b>7.8</b>	<b>Miscellaneous Charges</b>						
7.8.1	Expedite Charge (LIS Trunks)			Qwest's Arizona Switched Access Tariff			
7.8.2	Cancellation Charge (LIS Trunks)			Qwest's Arizona Switched Access Tariff			
7.8.3	Additional Testing (LIS Trunks)			Qwest's Arizona Switched Access Tariff			
7.8.4	Construction Charges	ICB		ICB	5		5
<b>7.9</b>	<b>Transit Traffic</b>						
7.9.1	Local Transit, per Minute of Use (Local Transit Assumed Mileage = 9 Miles)	See Tandem Switching and Transmission Rates Above	See Tandem Switching and Transmission Rates Above				
7.9.2	IntraLATA Toll Transit (Local Transit Assumed Mileage = 9 Miles)	Qwest's Arizona Switched Access Tariff	Qwest's Arizona Switched Access Tariff				
7.9.3	Jointly Provided Switched Access	Qwest's Arizona Switched Access Tariff					
7.9.4	Category 11 Mechanized Record Charge, per Record	\$0.001827			5		
<b>7.10</b>	<b>Intentionally Left Blank</b>						
<b>7.11</b>	<b>IntraLATA Toll Exchange Access</b>						
		Qwest's Arizona Switched Access Tariff	Qwest's Arizona Switched Access Tariff				
<b>7.12</b>	<b>LIS Forecasting Deposit</b>						
7.12.1	DS1 End Office Direct Trunking			\$6,500.00			5
7.12.2	DS1 Tandem Trunking			\$16,000.00			5
<b>8.0</b>	<b>Collocation</b>						
<b>8.1</b>	<b>All Collocation</b>						
8.1.1	<b>Planning and Engineering</b>						
8.1.1.1	Quote Preparation Fee			\$1,381.54			A
8.1.1.2	Augment Quote Prep Fee			\$345.00			A
8.1.2	<b>Entrance Facility</b>						
8.1.2.1	Standard per Fiber Pair	\$8.42		\$335.47	A		A
8.1.2.2	Cross Connect per Fiber	\$8.50		\$388.22	A		A
8.1.2.3	Express per Cable	\$146.47		\$5,475.55	A		A
8.1.3	<b>Cable Splicing</b>						
8.1.3.1	Fiber, per Set-Up			\$499.69			A
8.1.3.2	Per Fiber Spliced			\$22.22			A
8.1.3.3	Per Splice - Copper			ICB			5
8.1.4	<b>Power Usage</b>						
8.1.4.1	-48 Volt DC Power Usage, per Ampere, per Month						
8.1.4.1.1	Power Plant						
8.1.4.1.1.1	Greater Than 60 Amps	\$10.75			A		
8.1.4.1.1.2	Equal to 60 Amps	\$10.75			A		
8.1.4.1.1.3	Less Than 60 Amps	\$10.75			A		
8.1.4.1.2	Power Usage						
8.1.4.1.2.1	Less Than 60 Amps, per Amp	\$3.64			A		
8.1.4.1.2.2	More Than 60 Amps, per Amp	\$7.27			A		
8.1.5	<b>AC Power Feed</b>						
8.1.5.1	AC Power Feed (Backup Power), per Amp, per Month						

**Exhibit A  
Arizona\***

		Recurring	Recurring, per Mile	Non- Recurring	R/C	R/C per Mile	N/C
8.1.5.1.1	120 V	\$15.48			A		
8.1.5.1.2	208 V, Single Phase	\$26.83			A		
8.1.5.1.3	208 V, Three Phase	\$46.42			A		
8.1.5.1.4	240 V, Single Phase	\$30.96			A		
8.1.5.1.5	240 V, Three Phase	\$53.57			A		
8.1.5.1.6	480 V, Three Phase	\$107.13			A		
8.1.5.2	AC Power Feed, per Foot per A & B Feeder						
8.1.5.2.1	20 Amp, Single Phase	\$0.01151		\$7.87	A		A
8.1.5.2.2	20 Amp, Three Phase	\$0.01427		\$9.76	A		A
8.1.5.2.3	30 Amp, Single Phase	\$0.01241		\$8.49	A		A
8.1.5.2.4	30 Amp, Three Phase	\$0.01704		\$11.66	A		A
8.1.5.2.5	40 Amp, Single Phase	\$0.01459		\$9.98	A		A
8.1.5.2.6	40 Amp, Three Phase	\$0.02008		\$13.74	A		A
8.1.5.2.7	50 Amp, Single Phase	\$0.01731		\$11.84	A		A
8.1.5.2.8	50 Amp, Three Phase	\$0.02417		\$16.54	A		A
8.1.5.2.9	60 Amp, Single Phase	\$0.01957		\$13.39	A		A
8.1.5.2.10	60 Amp, Three Phase	\$0.02782		\$19.04	A		A
8.1.5.2.11	100 Amp, Single Phase	\$0.02423		\$16.58	A		A
8.1.5.2.12	100 Amp, Three Phase	\$0.03784		\$25.89	A		A
8.1.6	Inspector Labor, per Half Hour						
8.1.6.1	Regular Hours Rate			\$31.47			A
8.1.6.2	After Hours Rate, minimum 3 hours			\$40.52			A
8.1.7	Channel Regeneration						
8.1.7.1	DS1			\$0.00			A
8.1.7.2	DS3			\$0.00			A
8.1.8	Collocation Terminations						
8.1.8.1	Shared Access						
8.1.8.1.1	Collocation Terminations - DS0						
8.1.8.1.1.1	Intentionally Left Blank						
8.1.8.1.1.2	Cable Placement per Termination	\$0.0091		\$4.59	5		5
8.1.8.1.1.3	Cable per 100 Pair Block	\$0.0000		\$0.00	A		A
8.1.8.1.1.4	Cable per Termination	\$0.0085		\$4.31	5		5
8.1.8.1.1.5	DS0 Terminations per 100	\$1.58		\$622.24	A		A
8.1.8.1.1.6	DS0 Blocks per Termination	\$0.0149		\$7.51	5		5
8.1.8.1.1.7	Intentionally Left Blank						
8.1.8.1.1.8	DS0 Block Placement per Termination	\$0.0069		\$3.47	5		5
8.1.8.1.2	Collocation Terminations - DS1						
8.1.8.1.2.1	Intentionally Left Blank						
8.1.8.1.2.2	Cable Placement, per Termination	\$0.0639		\$43.71	5		5
8.1.8.1.2.3	Cable per 28 DS1s	\$0.0000		\$0.00	A		A
8.1.8.1.2.4	Cable per Termination	\$0.0570		\$39.03	5		5
8.1.8.1.2.5	DS1 Unconnectorized Terminations, per 28 DS1s	\$1.10		\$595.32	A		A
8.1.8.1.2.6	DS1 Panel per Termination	\$0.0731		\$50.00	5		5
8.1.8.1.2.7	Intentionally Left Blank						
8.1.8.1.2.8	DS1 Panel Placement, per Termination	\$0.0136		\$9.33	5		5
8.1.8.1.3	Collocation Terminations - DS3						
8.1.8.1.3.1	Intentionally Left Blank						
8.1.8.1.3.2	Cable, per Termination	\$0.0000		\$0.00	A		A
8.1.8.1.3.3	DS3 Connectorized Termination, per DS3	\$0.53		\$370.39	A		A
8.1.8.1.4	Fiber Terminations						
8.1.8.1.4.1	Fiber Terminations, per 12 Fibers	\$30.03		\$1,622.40	5		5
8.1.8.1.4.2	Cable Racking Shared (per 12 fibers)	\$2.35			5		
8.1.8.1.4.3	Cable Racking Dedicated	\$3.38		\$1,476.27	5		5
8.1.8.1.4.4	Additional Connector (if applicable)	\$1.01		\$441.16	5		5
8.1.9	Security						
8.1.9.1	Per Employee, per Card	\$0.71			A		
8.1.9.2	Card Access, per Employee, per Office	\$3.88			A		
8.1.9.3	Central Office Security Infrastructure	ICB		ICB	5		5
8.1.10	Central Office Clock Synchronization						
8.1.10.1	Synchronization - Composite Clock, per Port	\$4.83			A		
8.1.11	Intentionally Left Blank						
8.1.12	Space Availability Report, per Office			\$329.08			A
8.1.13	Collocation Space Reservation Fee			The charge will be 25% of the Nonrecurring Fee			

**Exhibit A  
Arizona\***

		Recurring	Recurring, per Mile	Non- Recurring	R/C	R/C per Mile	N/C
8.1.14	Collocation Space Option Administration Fee			\$1,839.56			5
8.1.15	Collocation Space Option Fee	\$2.00			5		
8.1.16	Intentionally Left Blank						
8.1.17	Cancellation / Decommission	No Charge					
8.1.18	Reclamation and Reconditioning	No Charge					
<b>8.2</b>	<b>Virtual Collocation</b>						
8.2.1	Planning and Engineering Fee						
8.2.1.1	Quote Preparation Fee			\$1,381.54			A
8.2.1.2	Augment Quote Preparation Fee			\$345.00			A
8.2.2	Maintenance Labor, per Half Hour						
8.2.2.1	Regular Hours Rate			\$27.60			A
8.2.2.2	After Hours Rate			\$36.93			A
8.2.3	Training Labor, per Half Hour						
8.2.3.1	Regular Hours Rate			\$27.60			A
8.2.4	Equipment Bay, per shelf	\$1.77			A		
8.2.5	Engineering Labor, per Half Hour						
8.2.5.1	Regular Hours Rate			\$29.78			A
8.2.5.2	After Hours Rate			\$38.44			A
8.2.6	Installation Labor, per Half Hour						
8.2.6.1	Regular Hours Rate			\$31.47			A
8.2.6.2	After Hours Rate			\$40.52			A
8.2.7	Rent						
8.2.7.1	Floor Space Lease, per Square Foot	\$3.26			A		
8.2.8	Intentionally Left Blank						
8.2.9	Power Plant						
8.2.9.1	-48 Volt DC Power Cable, per Feed						
8.2.9.1.1	20 Amp Feed	\$4.37		\$2,990.13	A		A
8.2.9.1.2	30 Amp Feed	\$5.15		\$3,521.53	A		A
8.2.9.1.3	40 Amp Feed	\$6.55		\$4,481.18	A		A
8.2.9.1.4	Intentionally Left Blank						
8.2.9.1.5	60 Amp Feed	\$8.15		\$5,577.68	A		A
8.2.9.1.6	100 Amp Feed	\$36.35		\$24,874.87	5		5
8.2.9.1.7	200 Amp Feed	\$66.43		\$45,460.29	5		5
8.2.9.1.8	300 Amp Feed	\$102.99		\$70,481.68	5		5
8.2.9.1.9	400 Amp Feed	\$146.23		\$100,073.71	5		5
<b>8.3</b>	<b>Cageless Physical Collocation</b>						
8.3.1	Planning and Engineering Fee						
8.3.1.1	Quote Preparation Fee			\$1,381.54			A
8.3.1.2	Augment Quote Preparation Fee			\$345.00			A
8.3.2	Space Construction and Site Preparation						
8.3.2.1	Site Preparation Fee				ICB		5
8.3.2.2	Space Construction for 2 Bays and 1 - 40 Amp Power Feed	\$24.52		\$16,781.29	C		A
8.3.2.3	Intentionally Left Blank						
8.3.2.4	Intentionally Left Blank						
8.3.2.5	Intentionally Left Blank						
8.3.2.6	Space Construction Adjustment						
8.3.2.6.1	Adjustment for 20 Amp Initial Power Feed	(\$2.18)		(\$1,461.05)	A		A
8.3.2.6.2	Adjustment for 30 Amp Initial Power Feed	(\$1.40)		(\$959.65)	A		A
8.3.2.6.3	Space Construction 40 Amp Initial Power Feed	Included in Space Construction		Included in Space Construction			
8.3.2.6.4	Adjustment for 60 Amp Initial Power Feed	\$1.60		\$1,096.50	A		A
8.3.2.6.5	Adjustment for 100 Amp Initial Power Feed	\$13.72		\$9,389.08	5		5
8.3.2.6.6	Adjustment for 200 Amp Initial Power Feed	\$43.80		\$29,974.50	5		5
8.3.2.6.7	Adjustment for 300 Amp Initial Power Feed	\$80.36		\$54,995.90	5		5
8.3.2.6.8	Adjustment for 400 Amp Initial Power Feed	\$123.60		\$84,587.92	5		5
8.3.2.6.9	Space Construction Adjustment for Each Additional Bay	\$2.85		\$1,952.68	A		C
8.3.2.7	Intentionally Left Blank						
8.3.2.8	Additional DC Power Feed - Does not apply to Initial Feed						
8.3.2.8.1	Each Additional 20 Amp Power Feed	\$4.37		\$2,990.13	A		A
8.3.2.8.2	Each Additional 30 Amp Power Feed	\$5.15		\$3,521.53	A		A
8.3.2.8.3	Each Additional 40 Amp Power Feed	\$6.55		\$4,481.18	A		A

**Exhibit A  
Arizona\***

		Recurring	Recurring, per Mile	Non-Recurring	R/C	R/C per Mile	N/C
8.3.2.8.4	Each Additional 60 Amp Power Feed	\$8.15		\$5,577.68	A		A
8.3.2.8.5	Each Additional 100 Amp Power Feed	\$36.35		\$24,874.87	5		5
8.3.2.8.6	Each Additional 200 Amp Power Feed	\$66.43		\$45,460.29	5		5
8.3.2.8.7	Each Additional 300 Amp Power Feed	\$102.99		\$70,481.68	5		5
8.3.2.8.8	Each Additional 400 Amp Power Feed	\$146.23		\$100,073.71	5		5
8.3.3	Floor Space Lease, per Square Foot	\$3.26			A		
8.3.4	Intentionally Left Blank						
8.3.5	Humidification, per Leased Physical Space	\$28.03			5		
<b>8.4</b>	<b>Caged Physical Collocation</b>						
8.4.1	Planning and Engineering Fee						
8.4.1.1	Quote Preparation Fee			\$1,381.54			A
8.4.1.2	Augment Quote Preparation Fee			\$345.00			A
8.4.2	Space Construction and Site Preparation						
8.4.2.1	Site Preparation			ICB			5
8.4.2.2	Intentionally Left Blank						
8.4.2.3	Intentionally Left Blank						
8.4.2.4	Space Construction, includes 1 - 60 Amp Power Feed						
8.4.2.4.1	Cage - Up to 100 Sq. Ft.	\$42.61		\$29,160.37	A		A
8.4.2.4.2	Cage - 101 to 200 Sq. Ft.	\$44.49		\$30,444.34	A		A
8.4.2.4.3	Cage - 201 to 300 Sq. Ft.	\$46.22		\$31,627.56	A		A
8.4.2.4.4	Cage - 301 to 400 Sq. Ft.	\$48.41		\$33,132.10	A		A
8.4.2.5	Space Construction Adjustment						
8.4.2.5.1	Adjustment for 20 Amp Initial Power Feed	(\$1.95)		(\$2,635.18)	A		A
8.4.2.5.2	Adjustment for 30 Amp Initial Power Feed	(\$3.15)		(\$2,120.72)	A		A
8.4.2.5.3	Adjustment for 40 Amp Initial Power Feed	(\$1.54)		(\$1,257.25)	A		A
8.4.2.5.4	Adjustment for 60 Amp Initial Power Feed	Included in Space Construction		Included in Space Construction			
8.4.2.5.5	Adjustment for 100 Amp Initial Power Feed	(\$1.62)		(\$426.33)	A		A
8.4.2.5.6	Adjustment for 200 Amp Initial Power Feed	\$5.82		\$3,982.26	A		A
8.4.2.5.7	Adjustment for 300 Amp Initial Power Feed	\$13.31		\$9,108.08	A		A
8.4.2.5.8	Adjustment for 400 Amp Initial Power Feed	\$22.31		\$15,270.48	A		A
8.4.2.6	Intentionally Left Blank						
8.4.2.7	Additional DC Power Feeds - Does not apply to Initial Feed						
8.4.2.7.1	Each Additional 20 Amp Power Feed	\$4.78		\$3,273.13	A		A
8.4.2.7.2	Each Additional 30 Amp Power Feed	\$5.45		\$3,727.57	A		A
8.4.2.7.3	Each Additional 40 Amp Power Feed	\$6.80		\$4,651.01	A		A
8.4.2.7.4	Each Additional 60 Amp Power Feed	\$8.63		\$5,908.29	A		A
8.4.2.7.5	Each Additional 100 Amp Power Feed	\$8.01		\$5,481.97	A		A
8.4.2.7.6	Each Additional 200 Amp Power Feed	\$14.45		\$9,890.55	A		A
8.4.2.7.7	Each Additional 300 Amp Power Feed	\$21.94		\$15,016.37	A		A
8.4.2.7.8	Each Additional 400 Amp Power Feed	\$30.95		\$21,178.77	A		A
8.4.3	Intentionally Left Blank						
8.4.4	Floor Space Lease, per Square Foot	\$3.26			A		
8.4.5	Intentionally Left Blank						
8.4.6	Humidification, per Leased Physical Space	\$28.03			5		
8.4.7	Intentionally Left Blank						
8.4.8	Grounding						
8.4.8.1	2/0 AWG, per Foot	\$0.00899		\$6.15	A		A
8.4.8.2	1/0 AWG, per Foot	\$0.01728		\$11.83	A		A
8.4.8.3	4/0 AWG, per Foot	\$0.01996		\$13.66	A		A
8.4.8.4	350 kcmil, per Foot	\$0.02948		\$20.17	A		A
8.4.8.5	500 kcmil, per Foot	\$0.03280		\$22.45	A		A
8.4.8.6	750 kcmil, per Foot	\$0.05077		\$34.75	A		A
<b>8.5</b>	<b>Adjacent Collocation</b>			ICB			5
<b>8.6</b>	<b>Remote Collocation</b>						
8.6.1	Physical & Virtual Remote Collocation						
8.6.1.1	Space, per Standard Mounting Unit	\$0.46		\$294.99	B		B
8.6.1.2	FDI Terminations, per 25 Pair	\$0.62		\$420.90	B		B
8.6.1.3	Power Plant						
8.6.1.3.1	Less than 60 Amps	\$10.75			A		
8.6.2	Adjacent Remote Collocation						
8.6.2.1	Adjacent Remote Collocation (New)			ICB			5

**Exhibit A  
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		Recurring	Recurring, per Mile	Non-Recurring	REC	REC per Mile	NRC
8.6.2.2	Adjacent Remote Collocation (Existing)						
8.6.2.2.1	Space, per Standard Mounting Unit	\$0.46		\$294.99	B		B
8.6.2.2.2	FDI Terminations, per 25 Pair	\$0.62		\$420.90	B		B
8.6.2.2.3	Power Plant						
8.6.2.2.3.1	Less Than 60 Amps	\$10.75			A		
8.6.3	Additional Virtual Remote Collocation Features						
8.6.3.1	Flat Charge, per Job			\$36.16			5
8.6.3.2	Engineering, per Half Hour			\$35.65			5
8.6.3.3	Maintenance, per Half Hour			\$29.40			5
8.6.3.4	Installation, per Half Hour			\$29.40			5
8.6.3.5	Training, per Half Hour			\$29.40			5
8.7	CLEC to CLEC Connections						
8.7.1	Design Engineering & Installation - No Cables			\$771.86			A
8.7.2	Cable Racking, Per Foot						
8.7.2.1	DS0	\$0.09662			A		
8.7.2.2	DS1	\$0.10353			A		
8.7.2.3	DS3	\$0.08753			A		
8.7.3	Virtual Connection (if applicable - Connections only No Cables)						
8.7.3.1	DS0, per 100 Connections			\$171.05			A
8.7.3.2	DS1, per 28 Connections			\$81.66			A
8.7.3.3	DS3, per 1 Connection			\$4.51			A
8.7.4	Cable Hole, if Applicable			\$355.71			A
8.7.5	CLEC to CLEC Cross Connection			\$244.82			A
8.8	Interconnection Distribution Frame (ICDF) Collocation			ICB			5
8.9	Intentionally Left Blank						
8.10	Microwave Entrance Facility		ICB	ICB	5		5
9.0	Unbundled Network Elements (UNEs)						
9.1	Interconnection Tie Pairs (ITP) - Per Termination						
9.1.1	DS0	\$0.36			A		
9.1.2	DS1	\$0.85			A		
9.1.3	DS3	\$8.06			A		
9.2	Unbundled Loops						
9.2.1	Analog Loops			See 9.2.4			
9.2.1.1	2-Wire Voice Grade Loop						
9.2.1.1.1	Zone 1	\$9.05			A		
9.2.1.1.2	Zone 2	\$14.84			A		
9.2.1.1.3	Zone 3	\$36.44			A		
9.2.1.2	Intentionally Left Blank						
9.2.1.3	4-Wire Voice Grade Loop						
9.2.1.3.1	Zone 1	\$11.77			A		
9.2.1.3.2	Zone 2	\$19.29			A		
9.2.1.3.3	Zone 3	\$47.37			A		
9.2.2	Nonloaded Loops			See 9.2.4			
9.2.2.1	2-Wire Nonloaded Loop						
9.2.2.1.1	Zone 1	\$9.05			A		
9.2.2.1.2	Zone 2	\$14.84			A		
9.2.2.1.3	Zone 3	\$36.44			A		
9.2.2.2	Intentionally Left Blank						
9.2.2.3	4-Wire Nonloaded Loop						
9.2.2.3.1	Zone 1	\$11.77			A		
9.2.2.3.2	Zone 2	\$19.29			A		
9.2.2.3.3	Zone 3	\$47.37			A		
9.2.2.4	Cable Unloading / Bridge Tap Removal						
9.2.2.4.1	Under 18,000 feet, per loop			\$40.00			A, 7
9.2.2.4.2	Above 18,000 feet, per location (for aerial and buried)			\$70.00			A, 7
9.2.2.4.3	Above 18,000 feet, per location (for underground)			\$400.00			A, 7
9.2.2.4.4	Above 18,000 feet, each additional coil or tap at the same time & location & cable			\$2.00			A, 7
9.2.2.5	Unbundled Loop Grooming						
9.2.2.5.1	Unbundled Loop Grooming (2 Wire)	\$0.37			5		
9.2.2.5.2	Unbundled Loop Grooming (4 Wire)	\$0.85			5		
9.2.3	Digital Capable Loops						
9.2.3.1	Basic Rate ISDN / xDSL -I Capable / ADSL Compatible Loops			See 9.2.4			

**Exhibit A  
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		Recurring	Recurring, per Mile	Non- Recurring	R/C	R/C per Mile	M/C
9.2.3.1.1	Zone 1	\$9.05			A		
9.2.3.1.2	Zone 2	\$14.84			A		
9.2.3.1.3	Zone 3	\$36.44			A		
9.2.3.2	Intentionally Left Blank						
9.2.3.3	DS1 Capable Loop			See 9.2.5			
9.2.3.3.1	Zone 1	\$67.39			A		
9.2.3.3.2	Zone 2	\$67.86			A		
9.2.3.3.3	Zone 3	\$76.06			A		
9.2.3.4	DS3 Capable Loop			See 9.2.6			
9.2.3.4.1	Zone 1	\$739.07			A		
9.2.3.4.2	Zone 2	\$749.77			A		
9.2.3.4.3	Zone 3	\$932.82			A		
9.2.3.5	OC-n Capable Loop			See 9.2.7			
9.2.3.5.1	OC - 3	\$834.95			5		
9.2.3.5.2	OC - 12	\$1,268.67			5		
9.2.3.5.3	OC - 48	\$3,305.99			5		
9.2.3.6	2-Wire Extension Technology	\$4.06			A		
9.2.3.7	2-Wire Extension Technology - Unbundled Loop Grooming	\$0.37			5		
9.2.4	Loop Installation Charges for 2 and 4 wire analog, 2 and 4 wire non-loaded, ADSL Compatible, ISDN BRI Capable and xDSL - I Capable Loops where conditioning is not required. (Note: If conditioning is required, additional conditioning charges may apply as specified in Section 9.2.2.5 above).	See 9.2.1, 9.2.2, & 9.2.3.1					
9.2.4.1	Basic Installation						
9.2.4.1.1	First			\$53.86			A
9.2.4.1.2	Each Additional			\$46.40			A
9.2.4.2	Basic Installation with Performance Testing						
9.2.4.2.1	First			\$117.30			A
9.2.4.2.2	Each Additional			\$84.16			A
9.2.4.3	Coordinated Installation with Cooperative Testing / Project Coordinated Installation						
9.2.4.3.1	First			\$141.67			A
9.2.4.3.2	Each Additional			\$84.16			A
9.2.4.4	Coordinated Installation without Cooperative Testing / Project Coordinated Installation						
9.2.4.4.1	First			\$58.18			A
9.2.4.4.2	Each Additional			\$50.73			A
9.2.4.5	Basic Installation with Cooperative Testing						
9.2.4.5.1	First			\$117.30			A
9.2.4.5.2	Each Additional			\$84.16			A
9.2.5	DS1 Loop Installation Charges	See 9.2.3.3					
9.2.5.1	Basic Installation						
9.2.5.1.1	First			\$87.93			A
9.2.5.1.2	Each Additional			\$67.58			A
9.2.5.2	Basic Installation with Performance Testing						
9.2.5.2.1	First			\$169.69			A
9.2.5.2.2	Each Additional			\$124.27			A
9.2.5.3	Coordinated Installation with Cooperative Testing / Project Coordinated Installation						
9.2.5.3.1	First			\$194.07			A
9.2.5.3.2	Each Additional			\$124.27			A
9.2.5.4	Coordinated Installation without Cooperative Testing / Project Coordinated Installation						
9.2.5.4.1	First			\$93.49			A
9.2.5.4.2	Each Additional			\$73.14			A
9.2.5.5	Basic Installation with Cooperative Testing						
9.2.5.5.1	First Loop			\$169.69			A
9.2.5.5.2	Each Additional			\$124.27			A
9.2.6	DS3 Loop Installation Charges	See 9.2.3.4					
9.2.6.1	Basic Installation						
9.2.6.1.1	First			\$87.93			A
9.2.6.1.2	Each Additional			\$67.58			A
9.2.6.2	Basic Installation with Performance Testing						
9.2.6.2.1	First			\$169.69			A
9.2.6.2.2	Each Additional			\$124.27			A

**Exhibit A  
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		Recurring	Recurring, per Mile	Non-Recurring	REC	REC per Mile	NRC
9.2.6.3	Coordinated Installation with Cooperative Testing / Project Coordinated Installation						
	9.2.6.3.1 First			\$194.07			A
	9.2.6.3.2 Each Additional			\$124.27			A
9.2.6.4	Coordinated Installation without Cooperative Testing / Project Coordinated Installation						
	9.2.6.4.1 First			\$93.49			A
	9.2.6.4.2 Each Additional			\$73.14			A
9.2.6.5	Basic Installation With Cooperative Testing						
	9.2.6.5.1 First			\$169.69			A
	9.2.6.5.2 Each Additional			\$124.27			A
9.2.7	OC - 3, 12, 48 Loop Installation Charges	See 9.2.3.5					
9.2.7.1	Basic Installation						
	9.2.7.1.1 First			\$87.93			A
	9.2.7.1.2 Each Additional			\$67.58			A
9.2.7.2	Basic Installation with Performance Testing						
	9.2.7.2.1 First			\$169.69			A
	9.2.7.2.2 Each Additional			\$124.27			A
9.2.7.3	Coordinated Installation with Cooperative Testing						
	9.2.7.3.1 First			\$194.07			A
	9.2.7.3.2 Each Additional			\$124.27			A
9.2.7.4	Coordinated Installation without Cooperative Testing						
	9.2.7.4.1 First			\$93.49			A
	9.2.7.4.2 Each Additional			\$73.14			A
9.2.7.5	Basic Installation with Cooperative Testing						
	9.2.7.5.1 First			\$169.69			A
	9.2.7.5.2 Each Additional			\$124.27			A
9.2.8	Private Line to Unbundled Loop Conversion			\$40.32			A
9.3	Subloop						
9.3.1	2-Wire Distribution Loop						
	9.3.1.1 First Loop						
	9.3.1.1.1 Installation			\$20.86			A
	9.3.1.1.2 Disconnect			\$20.07			A
	9.3.1.2 Each Additional Loop						
	9.3.1.2.1 Installation			\$20.86			A
	9.3.1.2.2 Disconnect			\$20.07			A
	9.3.1.3 First & Each Additional 2-Wire Distribution Loop						
	9.3.1.3.1 Zone 1	\$4.33			A		
	9.3.1.3.2 Zone 2	\$9.39			A		
	9.3.1.3.3 Zone 3	\$25.41			A		
9.3.2	4-Wire Nonloaded Distribution Loop						
	9.3.2.1 First Loop						
	9.3.2.1.1 Installation			\$56.77			A
	9.3.2.1.2 Disconnect			\$34.77			A
	9.3.2.2 Each Additional Loop						
	9.3.2.2.1 Installation			\$56.77			A
	9.3.2.2.2 Disconnect			\$34.77			A
	9.3.2.3 First & Each Additional 4-Wire Distribution Loop						
	9.3.2.3.1 Zone 1	\$5.63			A		
	9.3.2.3.2 Zone 2	\$12.21			A		
	9.3.2.3.3 Zone 3	\$33.03			A		
	9.3.2.4 4-Wire Disconnect at the FDI			\$34.77			A
9.3.3	Intra-Building Cable Loop, per Pair	\$0.2955			A		
	9.3.3.1 No Dispatch First			\$57.28			5
	9.3.3.2 No Dispatch Each Additional			\$23.89			5
	9.3.3.3 Dispatch First			\$101.49			5
	9.3.3.4 Dispatch Each Additional			\$33.75			5
	9.3.3.5 On Premises Wire, per Pair	\$0.2955			A		
9.3.4	Loop Feeder						
	9.3.4.1 DS1 Capable Feeder Loop						
	9.3.4.1.1 First Loop						
	9.3.4.1.1.1 Installation			\$17.81			A
	9.3.4.1.1.2 Disconnect			\$13.88			A
	9.3.4.1.2 Each Additional						
	9.3.4.1.2.1 Installation			\$17.81			A
	9.3.4.1.2.2 Disconnect			\$13.88			A
	9.3.4.1.3 First & Each Additional DS1 Capable Feeder Loop						
	9.3.4.1.3.1 Zone 1	\$57.51			A		

**Exhibit A  
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		Recurring	Recurring, per Mile	Non-Recurring	R/C	R/C per Mile	N/C
9.3.4.1.3.2	Zone 2	\$57.98			A		
9.3.4.1.3.3	Zone 3	\$66.16			A		
9.3.4.2	2-Wire Loop Feeder						
9.3.4.2.1	Zone 1	\$1.03			A		
9.3.4.2.2	Zone 2	\$1.42			A		
9.3.4.2.3	Zone 3	\$5.24			A		
9.3.4.3	4-Wire Loop Feeder						
9.3.4.3.1	Zone 1	\$1.34			A		
9.3.4.3.2	Zone 2	\$1.85			A		
9.3.4.3.3	Zone 3	\$6.81			A		
9.3.5	MTE Terminal Subloop Access						
9.3.5.1	Intentionally Left Blank						
9.3.5.2	MTE - POI Rearrangement of Facilities			ICB			5
9.3.5.3	MTE-POI Construction of New SPOI			ICB	5		
9.3.6	Intentionally Left Blank						
9.3.7	Field Connection Point						
9.3.7.1	Feasibility Fee / Quote Preparation Fee			\$1,609.81			A
9.3.8	Intentionally Left Blank						
9.3.9	2-Wire Loop Concentration						
9.3.9.1	Zone 1	\$3.09			A		
9.3.9.2	Zone 2	\$3.40			A		
9.3.9.3	Zone 3	\$5.15			A		
9.3.10	4-Wire Loop Concentration						
9.3.10.1	Zone 1	\$4.02			A		
9.3.10.2	Zone 2	\$4.42			A		
9.3.10.3	Zone 3	\$6.70			A		
9.3.11	Intentionally Left Blank						
9.3.12	Construction Fee			ICB			5
9.4	Shared Services						
9.4.1	Shared Loop, per Loop	\$2.42		\$37.71	A		5
9.4.2	UNE - P Line Splitting						
9.4.2.1	Basic Installation Charge for UNE-P Line Splitting			\$37.71			5
9.4.3	Intentionally Left Blank						
9.4.4	OSS, per Line, per Month	\$0.10			A		
9.4.5	Reclassification Charge			ICB			5
9.4.6	Splitter Shelf Charge	\$4.26		\$408.37	A		A
9.4.7	Splitter TIE Cable Connections						
9.4.7.1	Splitter in the Common Area--Data to 410 block	\$2.94		\$2,013.23	A		A
9.4.7.2	Splitter in the Common Area--Data direct to CLEC	\$3.07		\$2,097.79	A		A
9.4.7.3	Splitter on the IDF--Data to 410 block	\$1.02		\$696.64	A		A
9.4.7.4	Splitter on the IDF--Data direct to CLEC	\$1.84		\$1,260.56	A		A
9.4.7.5	Splitter on the MDF--Data to 410 block	\$1.04		\$710.94	A		A
9.4.7.6	Splitter on the MDF--Data direct to CLEC	\$2.16		\$1,479.92	A		A
9.4.8	Engineering			\$560.00			A
9.4.9	Intentionally Left Blank						
9.4.10	Existing Bay			\$120.00			A
9.5	Network Interface Device (NID)			\$38.68			A
9.5.1	Zone 1	\$0.60			A, 8		
9.5.2	Zone 2	\$0.63			A, 8		
9.5.3	Zone 3	\$0.64			A, 8		
9.6	Unbundled Dedicated Interoffice Transport (UDIT)						
9.6.1	DS0 UDIT						
9.6.1.1	Over 0 to 8 Miles	\$52.27	\$0.00		A, 5	A, 5	
9.6.1.2	Over 8 to 25 Miles	\$52.27	\$0.00		A, 5	A, 5	
9.6.1.3	Over 25 to 50 Miles	\$52.27	\$0.00		A, 5	A, 5	
9.6.1.4	Over 50 Miles	\$52.27	\$0.00		A, 5	A, 5	
9.6.1.5	Installation			\$7.60			A, 5
9.6.1.6	Disconnect			\$0.53			A, 5
9.6.2	DS1 UDIT						
9.6.3.1	Over 0 to 8 Miles	\$35.98	\$0.65		C, 5	C, 5	

**Exhibit A  
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		Recurring	Recurring, per Mile	Non- Recurring	R/C	R/C per Mile	M/R/C
9.6.3.2	Over 8 to 25 Miles	\$35.99	\$0.94		C, 5	C, 5	
9.6.3.3	Over 25 to 50 Miles	\$36.00	\$1.75		C, 5	C, 5	
9.6.3.4	Over 50 Miles	\$36.00	\$1.59		C, 5	C, 5	
9.6.3.5	Installation			\$7.60			A, 5
9.6.3.6	Disconnect			\$0.53			A, 5
9.6.3	DS3 UDIT						
9.6.3.1	Over 0 to 8 Miles	\$243.17	\$13.32		C, 5	C, 5	
9.6.3.2	Over 8 to 25 Miles	\$246.16	\$15.90		C, 5	C, 5	
9.6.3.3	Over 25 to 50 Miles	\$250.66	\$22.91		C, 5	C, 5	
9.6.3.4	Over 50 Miles	\$249.26	\$22.49		C, 5	C, 5	
9.6.3.5	Installation			\$7.60			A, 5
9.6.3.6	Disconnect			\$0.53			A, 5
9.6.4	OC-3 UDIT			\$7.60			A, 5
9.6.4.1	Over 0 to 8 Miles	\$643.77	\$202.00		A, 5	A, 5	
9.6.4.2	Over 8 to 25 Miles	\$648.75	\$64.95		A, 5	A, 5	
9.6.4.3	Over 25 to 50 Miles	\$621.82	\$84.55		A, 5	A, 5	
9.6.4.4	Over 50 Miles	\$639.09	\$59.87		A, 5	A, 5	
9.6.4.4	Installation			\$7.60			A, 5
9.6.4.6	Disconnect			\$0.53			A, 5
9.6.5	OC-12 UDIT			\$7.60			A, 5
9.6.5.1	Over 0 to 8 Miles	\$1,805.35	\$96.02		A, 5	A, 5	
9.6.5.2	Over 8 to 25 Miles	\$1,805.35	\$92.91		A, 5	A, 5	
9.6.5.3	Over 25 to 50 Miles	\$1,805.35	\$104.87		A, 5	A, 5	
9.6.5.4	Over 50 Miles	\$1,805.35	\$119.94		A, 5	A, 5	
9.6.5.5	Installation						
9.6.5.6	Disconnect			\$0.53			A & 5
				\$7.60			A, 5
9.6.6	OC-48 UDIT						
9.6.6.1	Over 0 to 8 Miles	\$9,928.59	\$333.23		A, 5	A, 5	
9.6.6.2	Over 8 to 25 Miles	\$9,928.59	\$356.98		A, 5	A, 5	
9.6.6.3	Over 25 to 50 Miles	\$9,928.59	\$395.95		A, 5	A, 5	
9.6.6.4	Over 50 Miles	\$9,928.59	\$486.88		A, 5	A, 5	
9.6.6.5	Installation			\$7.60			A, 5
9.6.6.6	Disconnect			\$0.53			A, 5
9.6.7	Channel Performance						
9.6.7.1	Low Side Channel Performance	\$11.32			A		
9.6.7.1.1	Low Side Channel Performance with Multiplexing	\$7.22			A		
9.6.7.2	DS1 / DS0 Low Side Channelization	\$7.22		\$235.59	A		A
9.6.8	Multiplexing						
9.6.8.1	DS1 to DS0	\$206.95		\$268.84	A		A
9.6.8.2	DS3 to DS1	\$228.05		\$2,524.01	A		A
9.6.9	Extended Unbundled Dedicated Transport (E-UDIT)						
9.6.9.1	DS1	\$89.42			C		
9.6.9.2	DS3	\$357.16			C		
9.6.10	Remote Node/Remote Port						
9.6.10.1	OC-3 UDIT						
9.6.10.1.1	OC-3 UDIT Remote Node	\$510.04			5		
9.6.10.1.2	DS1 Remote Port	\$4.15		\$214.07	5		5
9.6.10.1.3	DS3 Remote Port	\$56.68		\$214.07	5		5
9.6.10.2	OC-12 UDIT						
9.6.10.2.1	OC-12 UDIT Remote Node	\$997.82			5		
9.6.10.2.2	DS1 Remote Port	\$13.34		\$214.07	5		5
9.6.10.2.3	DS3 Remote Port	\$36.14		\$214.07	5		5
9.6.10.2.4	OC-3 Remote Port	\$119.79		\$214.07	5		5
9.6.10.3	OC-48 UDIT						
9.6.10.3.1	OC-48 UDIT Remote Node	\$3,094.14			5		
9.6.10.3.2	DS3 Remote Port	\$24.84		\$214.07	5		5
9.6.10.3.3	OC-3 Remote Port	\$140.24		\$214.07	5		5
9.6.10.3.4	OC-12 Remote Port	\$552.71		\$214.07	5		5
9.6.11	UDIT Rearrangement						
9.6.11.1	DS0 Dual Office			\$215.19			A
9.6.11.2	DS0 Single Office			\$173.14			A
9.6.11.3	High Capacity Dual Office			\$261.31			A
9.6.11.4	High Capacity Single Office			\$234.17			A
9.7	Unbundled Dark Fiber (UDF)						
9.7.1	Initial Records Inquiry (IRI)						
9.7.1.1	Simple			\$156.67			A
9.7.1.2	Complex			\$199.77			A
9.7.2	Field Verification and Quote Preparation (FVQP)			\$1,459.05			A

**Exhibit A  
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		Recurring	Recurring, per Mile	Non- Recurring	RFC	RFC per Mile	N/C
9.7.3	Field Verification (Engineering Verification)			\$346.77			5
9.7.4	UDF - Single Strand						
9.7.4.1	UDF - Interconnection Facility (UDF-IOF) - Single Strand						
9.7.4.1.1	Order Charge, per Strand / Route / Order			\$553.66			A, 5
9.7.4.1.2	Order Charge, Each Additional Strand / Route / Order			\$267.08			A, 5
9.7.4.1.3	Fiber Transport, per Strand / Mile	\$62.75			5		
9.7.4.1.4	Termination, per Strand / Office	\$5.23			5		
9.7.4.1.5	Fiber Cross-Connect, per Strand	\$2.17			5		
	9.7.4.1.5.1 Installation			\$8.64			5
	9.7.4.1.5.2 Disconnect			\$9.44			5
9.7.4.2	UDF-Loop Charges - Single Strand						
9.7.4.2.1	Order Charge per Strand / Route / Order			\$553.66			A, 5
9.7.4.2.2	Order Charge Each Additional Strand / Route / Order			\$267.08			A, 5
9.7.4.2.3	Fiber Loop, per Strand / Route	\$85.25			5		
9.7.4.2.4	Termination, per Strand / Office	\$5.23			5		
9.7.4.2.5	Termination, per Strand / Premise	\$4.67			5		
9.7.4.2.6	Fiber Cross-Connect, per Strand	\$2.17			5		
	9.7.4.2.6.1 Installation			\$8.64			5
	9.7.4.2.6.2 Disconnect			\$9.44			5
9.7.4.3	Extended Unbundled Dark Fiber (E-UDF) -Single Strand						
9.7.4.3.1	Order Charge per Strand / Route / Order			\$553.66			A
9.7.4.3.2	Order Charge Each Additional Strand / Route / Order			\$267.08			A
9.7.4.3.3	Fiber Loop, per Strand / Route	\$85.25			5		
9.7.4.3.4	Termination, per Single Strand / Office	\$5.23			5		
9.7.4.3.5	Termination, per Single Strand / Premise	\$4.67			5		
9.7.4.3.6	Fiber Cross-Connect per Strand	\$2.17			5		
	9.7.4.3.6.1 Installation			\$8.64			5
	9.7.4.3.6.2 Disconnect			\$9.44			5
9.7.5	UDF - per Pair						
9.7.5.1	UDF- Interconnection Facility (UDF - IOF) - per Pair						
9.7.5.1.1	Order Charge per First Pair / Route / Order			\$553.66			A
9.7.5.1.2	Order Charge Each Additional Pair / Same Route			\$267.08			A
9.7.5.1.3	Fiber Transport, per Pair / Mile	\$81.60			A		
9.7.5.1.4	Termination, per Pair / Office	\$6.65			A		
9.7.5.1.5	Fiber Cross-Connect, per Pair	\$3.96			A		
	9.7.5.1.5.1 Installation			\$8.64			A
	9.7.5.1.5.2 Disconnect			\$9.44			A
9.7.5.2	UDF-Loop Charges, per Pair						
9.7.5.2.1	Order Charge per First Pair / Route / Order			\$553.66			A
9.7.5.2.2	Order Charge Each Additional Pair / Same Route			\$267.08			A
9.7.5.2.3	Fiber Loop, per Pair / Route	\$110.86			5		
9.7.5.2.4	Termination, per Pair / Office	\$6.89			A		
9.7.5.2.5	Termination, per Pair / Premise	\$6.30			A		
9.7.5.2.6	Fiber Cross-Connect, per Pair	\$3.96			A		
	9.7.5.2.6.1 Installation			\$8.64			A
	9.7.5.2.6.2 Disconnect			\$9.44			A
9.7.5.3	Extended Unbundled Dark Fiber (E-UDF), per Pair						
9.7.5.3.1	Order Charge per First Pair / Route / Order			\$553.66			A
9.7.5.3.2	Order Charge Each Additional Pair / Same Route			\$267.08			A
9.7.5.3.3	Fiber Transport, per Pair / Mile	\$81.60			A		
9.7.5.3.4	Termination, per Pair / Office	\$6.65			A		
9.7.5.3.5	Fiber Cross-Connect, per Pair	\$3.96			A		
	9.7.5.3.5.1 Installation			\$8.64			A
	9.7.5.3.5.2 Disconnect			\$9.44			A
9.7.6	Dark Fiber Splice			\$663.01			5
9.8	Shared Transport, per Minute of Use	\$0.0008236			B		
9.9	Unbundled Customer Controlled Rearrangement Element (UCCRE)						
9.9.1	DS1 Port	ICB		ICB	5		5
9.9.2	DS3 Port	ICB		ICB	5		5
9.9.3	Dial Up Access	ICB			5		
9.9.4	Attendant Access	ICB			5		
9.9.5	Virtual Ports				ICB		5
9.10	Local Tandem Switching						
9.10.1	DS1 Local Message Trunk Port - Per Order	\$56.98			5		
	9.10.1.1 Installation			\$17.81			A
	9.10.1.2 Disconnect			\$13.12			A
9.10.2	DS1 Trunk Group						
	9.10.2.1 First Trunk, per Order			\$211.06			5
	9.10.2.2 Each Additional Trunk, per Order			\$24.29			5
9.10.3	Per Minute of Use	\$0.000550			B		

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		Recurring	Recurring, per Mile	Non-Recurring	REC	REC per Mile	NRC
<b>9.11</b>	<b>Local Switching</b>						
9.11.1	Ports						
9.11.1.1	Analog Line Side Port						
9.11.1.1.1	First Port	\$2.44		\$42.58	C		B
9.11.1.1.2	Each Additional	\$2.44		\$42.58	C		B
9.11.1.1.3	Disconnect			\$1.57			B
9.11.1.2	Digital Line Side Port (Supporting BRI ISDN)						
9.11.1.2.1	First Port	\$10.38		\$215.49	B		A
9.11.1.2.2	Each Additional Port	\$10.38		\$215.49	B		A
9.11.1.3	Digital Trunk Ports						
9.11.1.3.1	DS1 Local Message Trunk Port	\$55.97			B		
9.11.1.3.1.1	Installation			\$17.81			A
9.11.1.3.1.2	Disconnect			\$13.12			A
9.11.1.3.2	Message Trunk Group, First Trunk						
9.11.1.3.2.1	First Trunk	\$15.50		\$205.44	B		A
9.11.1.3.2.2	Each Additional Trunk	\$15.50		\$49.94	B		A
9.11.1.3.3	DS1 PRI ISDN Trunk Port	\$224.74		\$637.08	B		A
9.11.1.3.4	PBX / DID Trunk Port, per DSO	\$3.32		\$208.98	B		A
9.11.1.4	DS0 Analog Trunk Port						
9.11.1.4.1	First Port	\$15.78		\$120.93	B, 5		A
9.11.1.4.2	Each Additional Port	\$15.78		\$28.07	B, 5		A
9.11.1.5	Local Usage, Per Minute of Use	\$0.00097			C		
9.11.2	Vertical Features						
9.11.2.1	Basic Features				9		
9.11.2.1.1	Account Codes, per System			\$78.60			B
9.11.2.1.2	Attendant Access Line, per Station Line			\$1.14			B
9.11.2.1.3	Audible Message Waiting			\$0.99			B
9.11.2.1.4	Authorization Codes, per System			\$235.06			B
9.11.2.1.5	Automatic Line			\$0.34			B
9.11.2.1.6	Automatic Route Selection - Common Equipment, per System			\$2,062.41			B
9.11.2.1.7	Call Drop			\$0.34			B
9.11.2.1.8	Call Exclusion - Automatic			\$0.99			B
9.11.2.1.9	Call Exclusion - Manual			\$0.66			B
9.11.2.1.10	Call Forwarding: Busy Line / Don't Answer Programmable Service Establishment			\$15.39			B
9.11.2.1.11	Call Forwarding: Don't Answer / Call Forward Busy Customer Programmable, per Line			\$0.99			B
9.11.2.1.12	Call Forwarding: Busy Line / Don't Answer (Expanded)			\$37.25			B
9.11.2.1.13	Call Forwarding: Don't Answer			\$37.25			B
9.11.2.1.14	Call Waiting Indication, per Timing State			\$0.99			B
9.11.2.1.15	Centrex Common Equipment			\$1,184.89			B
9.11.2.1.16	Call Forwarding Busy Line - Incoming Only			\$37.25			B
9.11.2.1.17	Call Forwarding Don't Answer - Incoming Only			\$37.25			B
9.11.2.1.18	CLASS - Continuous Redial			\$1.24			B
9.11.2.1.19	CLASS - Last Call Return			\$1.25			B
9.11.2.1.20	CLASS - Priority Calling			\$1.18			B
9.11.2.1.21	CLASS - Selective Call Forwarding			\$1.24			B
9.11.2.1.22	CLASS - Selective Call Rejection			\$1.18			B
9.11.2.1.23	Direct Station Selection / Busy Lamp Field, per Arrangement			\$0.34			B
9.11.2.1.24	Directed Call Pickup with Barge-in			\$19.81			B
9.11.2.1.25	Directed Call Pickup without Barge-in			\$19.81			B
9.11.2.1.26	Distinctive Ring / Distinctive Call Waiting			\$39.60			B
9.11.2.1.27	Expensive Route Warning Tone, per System			\$70.64			B
9.11.2.1.28	Facility Restriction Level, per System			\$43.46			B
9.11.2.1.29	Group Intercom			\$0.45			B
9.11.2.1.30	Hot Line, per Line			\$0.99			B
9.11.2.1.31	Hunting: Multiposition Hunt Queuing			\$37.90			B
9.11.2.1.32	Hunting: Multiposition with Announcement in Queue			\$37.90			B
9.11.2.1.33	Hunting: Multiposition with Music in Queue			\$40.03			B
9.11.2.1.34	ISDN Short Hunt			\$1.67			B
9.11.2.1.35	Loudspeaker Paging, per Trunk Group			\$173.41			B
9.11.2.1.36	Make Busy Arrangements, per Group			\$0.66			B
9.11.2.1.37	Make Busy Arrangements, per Line			\$0.66			B
9.11.2.1.38	Message Center, per Main Station Line			\$0.34			B
9.11.2.1.39	Message Waiting Visual			\$0.34			B
9.11.2.1.40	Music On Hold, per System			\$22.72			B
9.11.2.1.41	Privacy Release			\$0.47			B
9.11.2.1.42	Query Time			\$0.34			B
9.11.2.1.43	Station Camp-On Service, per Main Station			\$0.34			B
9.11.2.1.44	Time of Day Control for ARS, per System			\$123.60			B
9.11.2.1.45	Time of Day NCOS Update			\$0.53			B
9.11.2.1.46	Time of Day Routing, per Line			\$0.51			B
9.11.2.1.47	Trunk Verification from Designated Station			\$0.39			B
9.11.2.1.48	UCD in Hunt Group, per Line			\$0.66			B
9.11.2.1.49	SMDR-P - Service Establishment Charge, Initial Installation			\$333.29			B

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		Recurring	Recurring, per Mile	Non-Recurring	REC	REC per Mile	NRC
9.11.2.1.50	SMDR-P - Archived Data			\$174.16			B
9.11.2.1.51	Feature Changes			\$0.28			B
<b>9.11.2.2</b>	<b>Premium Features</b>						
9.11.2.2.1	CMS - System Establishment - Initial Installation			\$954.41			B
9.11.2.2.2	CMS - System Establishment - Subsequent Installation			\$477.21			B
9.11.2.2.3	CMS - Packet Control Capability, per System			\$477.21			B
9.11.2.2.4	Conference Calling - Meet Me			\$41.72			B
9.11.2.2.5	Conference Calling - Preset			\$41.72			B
<b>9.11.2.3</b>	<b>CLASS - Call Trace</b>	\$2.35			B		
9.11.3	Subsequent Order Charge			\$13.33			B
9.11.4	Local Switching - Market Based Rates	Under Development		Under Development	10		10
<b>9.12</b>	<b>Customized Routing</b>						
9.12.1	Development of Custom Line Class Code - Directory Assistance or Operator Services Routing Only			\$310.28			B
9.12.2	Installation Charge, per Switch Directory Assistance or Operator Service Routing Only			\$227.29			B
9.12.3	All Other Custom Routing	ICB		ICB	5		5
<b>9.13</b>	<b>Common Channel Signaling/SS7</b>						
9.13.1	CCSAC STP Port	\$245.27		\$432.49	A		A
9.13.2	CCSAC Options Activation Charge						
9.13.2.1	Basic Translations						
9.13.2.1.1	First Activation, per Order			\$113.29			A
9.13.2.1.2	Each Additional Activation, per Order			\$9.41			A
9.13.2.2	CCSAC Options Database Translations						
9.13.2.2.1	First Activation per Order			\$132.11			A
9.13.2.2.2	Each additional Activation per Order			\$56.44			A
9.13.3	Signal Formulation, ISUP, Per Call Set-Up Request	\$0.001991			A		
9.13.4	Signal Transport, ISUP, Per Call Set-Up Request	\$0.001292			A		
9.13.5	Signal Transport, TCAP, per Data Request	\$0.000286			A		
9.13.6	Signal Switching, ISUP, Per Call Set-Up Request	\$0.000903			A		
9.13.7	Signal Switching, TCAP, Per Data Request	\$0.000565			A		
9.13.8	STP per message	\$0.00005			A		
9.13.9	SCP per message	\$0.00021			A		
9.13.10	Signaling Link						
9.13.10.1	DSO						
9.13.10.1.1	First Link	\$31.96		\$22.21	A		A
9.13.10.1.2	Additional Link	\$31.96		\$22.21	A		A
9.13.10.1.3	Disconnect			\$6.33			A
9.13.10.2	DS1						
9.13.10.2.1	Installation			\$20.94			A
9.13.10.2.2	Disconnect			\$5.73			A
9.13.10.3	Global Title Translations "A Link" Only						
9.13.10.3.1	Installation			\$27.69			A
9.13.10.3.2	Disconnect			\$27.69			A
9.13.10.4	Global Title Translations "A Link" Only Port						
9.13.10.4.1	Installation			\$19.63			A
9.13.10.4.2	Disconnect			\$18.82			A
<b>9.14</b>	<b>Advanced Intelligent Network (AIN)</b>						
9.14.1	AIN Customized Services (ACS)			ICB			5
9.14.2	AIN Platform Access (APA)	ICB		ICB	5		5
9.14.3	AIN Query Processing, per Query	ICB			5		
<b>9.15</b>	<b>Line Information Database (LIDB)</b>						
9.15.1	LIDB Storage			No Charge			
9.15.2	Line Validation Administration System Access (LVAS)						
9.15.2.1	LIDB Line Record Initial Load						
9.15.2.2	Up to 20,000 Line Records			\$2,601.00			5
9.15.2.3	Over 20,000 Line Records			ICB			5
9.15.2.4	Mechanized Service Account Update, per Addition or Update Processed			ICB			5
9.15.2.5	Individual Line Record Audit			ICB			5
9.15.2.6	Account Group Audit			ICB			5
9.15.2.7	Expedited Request Charge for Manual Updates			ICB			5
9.15.3	LIDB Query Service, per Query	\$0.00092685			A		
9.15.4	Fraud Alert Notification, per Alert			ICB			5

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		Recurring	Recurring, per Mile	Non- Recurring	RFC	RFC per Mile	NRC
<b>9.16</b>	<b>8XX Database Query Service</b>						
9.16.1	Basic Query, per Query	\$ 0.01972155			A		
9.16.2	POTS Translation	\$ 0.00000054			A		
9.16.3	Call Handling & Destination Feature	\$ 0.00000162			A		
<b>9.17</b>	<b>ICNAM, Per Query</b>	\$ 0.00082156			A		
<b>9.18</b>	<b>Intentionally Left Blank</b>						
<b>9.19</b>	<b>Construction Charges</b>						
9.19.1	CLEC Requested UNE Construction (CRUNEC)						
9.19.1.1	Unbundled Dark Fiber Quote Preparation Fee			\$1,638.81			5
9.19.1.2	Subloop Quote Preparation Fee			\$1,638.81			5
9.19.1.3	Unbundled Loop Quote Preparation Fee			\$1,638.81			5
9.19.1.4	Loop Mux Combo Quote Preparation Fee			\$1,638.81			5
9.19.1.5	EEL Quote Preparation Fee			\$1,638.81			5
9.19.1.6	UDIT Quote Preparation Fee			\$1,638.81			5
9.19.2	Construction of Network Capacity Facilities or Space for Access to or use of UNEs	ICB		ICB	5		5
<b>9.20</b>	<b>Miscellaneous Charges</b>						
9.20.1	Additional Engineering, per Half Hour or fraction thereof						
9.20.1.1	Additional Engineering – Basic			\$31.28			A
9.20.1.2	Additional Engineering – Overtime			\$38.68			A
9.20.2	Additional Labor Installation, per Half Hour or fraction thereof						
9.20.2.1	Additional Labor Installation – Overtime			\$8.89			A
9.20.2.2	Additional Labor Installation – Premium			\$17.78			A
9.20.3	Additional Labor Other, per Half Hour or fraction thereof						
9.20.3.1	Additional Labor Other - (Optional Testing) Basic			\$27.26			A
9.20.3.2	Additional Labor Other - (Optional Testing) Overtime			\$36.41			A
9.20.3.3	Additional Labor Other - (Optional Testing) Premium			\$45.57			A
9.20.4	Testing and Maintenance, per Half Hour or fraction thereof						
9.20.4.1	Testing and Maintenance – Basic			\$28.96			A
9.20.4.2	Testing and Maintenance – Overtime			\$38.68			A
9.20.4.3	Testing and Maintenance – Premium			\$48.40			A
9.20.5	Maintenance of Service, per Half Hour or fraction thereof						
9.20.5.1	Maintenance of Service – Basic			\$27.26			A
9.20.5.2	Maintenance of Service – Overtime			\$36.41			A
9.20.5.3	Maintenance of Service – Premium			\$45.57			A
9.20.6	Additional Cooperative Acceptance Testing, per Half Hour or fraction thereof						
9.20.6.1	Additional Cooperative Acceptance Testing – Basic			\$28.96			A
9.20.6.2	Additional Cooperative Acceptance Testing – Overtime			\$38.68			A
9.20.6.3	Additional Cooperative Acceptance Testing – Premium			\$48.40			A
9.20.7	Nonscheduled Cooperative Testing, per Half Hour or fraction thereof						
9.20.7.1	Nonscheduled Cooperative Testing - Basic			\$28.96			A
9.20.7.2	Nonscheduled Cooperative Testing – Overtime			\$38.68			A
9.20.7.3	Nonscheduled Cooperative Testing – Premium			\$48.40			A
9.20.8	Nonscheduled Manual Testing, per Half Hour or fraction thereof						
9.20.8.1	Nonscheduled Manual Testing – Basic			\$28.96			A
9.20.8.2	Nonscheduled Manual Testing – Overtime			\$38.68			A
9.20.8.3	Nonscheduled Manual Testing – Premium			\$48.40			A
9.20.9	Cooperative Scheduled Testing						
9.20.9.1	Cooperative Scheduled Testing - Loss			\$0.08			A
9.20.9.2	Cooperative Scheduled Testing - C Message Noise			\$0.08			A
9.20.9.3	Cooperative Scheduled Testing - Balance			\$0.33			A
9.20.9.4	Cooperative Scheduled Testing - Gain Slope			\$0.08			A
9.20.9.5	Cooperative Scheduled Testing - C Notched Noise			\$0.08			A
9.20.10	Manual Scheduled Testing						
9.20.10.1	Manual Scheduled Testing - Loss			\$0.16			A
9.20.10.2	Manual Scheduled Testing -C- Message Noise			\$0.16			A
9.20.10.3	Manual Scheduled Testing - Balance			\$0.65			A
9.20.10.4	Manual Scheduled Testing - Gain Slope			\$0.16			A
9.20.10.5	Manual Scheduled Testing - C Notched Noise			\$0.16			A
9.20.11	Additional Dispatch			\$83.10			A
9.20.12	Date Change			\$10.22			A
9.20.13	Design Change			\$72.79			A
9.20.14	Expedite Charge			ICB			5
9.20.15	Cancellation Charge			ICB			5
<b>9.21</b>	<b>Channel Regeneration</b>						
9.21.1	DS1	\$0.00		\$0.00	A		A
9.21.2	DS3	\$0.00		\$0.00	A		A

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			Recurring	Recurring, per Mile	Non-Recurring	REC	REC per Mile	NRC
<b>9.22 Intentionally Left Blank</b>								
<b>9.23 UNE Combinations</b>								
9.23.1	UNE - P Qwest Miscellaneous Services Available with UNE-P							
9.23.1.1	Qwest DSL (provided with UNE-P)		See applicable Qwest Retail Tariff, Catalog or Price List		See applicable Qwest Retail Tariff, Catalog or Price List			
9.23.1.2	Qwest Voice Messaging Service (provided with UNE-P)		See applicable Qwest Retail Tariff, Catalog or Price List		See applicable Qwest Retail Tariff, Catalog or Price List			
9.23.1.3	Qwest AIN Services (provided with UNE-P)		See applicable Qwest Retail Tariff, Catalog or Price List		See applicable Qwest Retail Tariff, Catalog or Price List			
9.23.1.3.1	Remote Access Forwarding List		See applicable Qwest Retail Tariff, Catalog or Price List		See applicable Qwest Retail Tariff, Catalog or Price List			
9.23.1.3.2	Scheduled Forwarding		See applicable Qwest Retail Tariff, Catalog or Price List		See applicable Qwest Retail Tariff, Catalog or Price List			
9.23.1.3.3	Dial Lock		See applicable Qwest Retail Tariff, Catalog or Price List		See applicable Qwest Retail Tariff, Catalog or Price List			
9.23.1.3.4	Do Not Disturb		See applicable Qwest Retail Tariff, Catalog or Price List		See applicable Qwest Retail Tariff, Catalog or Price List			
9.23.2	UNE-P Conversion Nonrecurring Charges							
9.23.2.1	UNE-P POTS, Centrex, Analog PBX, Mechanized							
9.23.2.1.1	First				\$0.28			A
9.23.2.1.2	Each Additional				\$0.28			A
9.23.2.1.3	Disconnect, First and Each Additional				\$0.28			A
9.23.2.2	UNE-P POTS, Centrex, PAL, Analog PBX, Manual							
9.23.2.2.1	First				\$16.00			A
9.23.2.2.2	Each Additional				\$2.67			A
9.23.2.3	UNE-P PBX DID Trunks							
9.23.2.3.1	First				\$20.34			A
9.23.2.3.2	Each Additional				\$3.08			A
9.23.2.4	UNE-P ISDN BRI							
9.23.2.4.1	First				\$0.28			A
9.23.2.4.2	Each Additional				\$0.28			A
9.23.2.4.3	Disconnect, First and Each Additional				\$0.28			A
9.23.2.5	UNE-P ISDN PRI, DSS per DS1 Facility				\$50.31			A
9.23.2.6	UNE-P ISDN PRI, DSS - per Trunk							
9.23.2.6.1	First				\$18.52			A
9.23.2.6.2	Each Additional				\$3.08			A
9.23.3	UNE-P New Connection Nonrecurring Charges							
9.23.3.1	UNE-P POTS, Centrex, Analog PBX, Mechanized							
9.23.3.1.1	First				\$33.89			A
9.23.3.1.2	Each Additional				\$9.72			A
9.23.3.2	UNE-P POTS, Centrex, PAL, Analog PBX, Manua							
9.23.3.2.1	First				\$50.32			A
9.23.3.2.2	Each Additional				\$11.30			A
9.23.3.3	UNE - P PBX DID, per Trunk				\$177.02			5
9.23.3.4	UNE - P ISDN BRI				\$241.28			5
9.23.3.5	UNE - P Trunks							
9.23.3.5.1	DSS Basic Trunk - In Only, Out Only, or Two Way				\$52.13			5
9.23.3.5.2	DSS, ISDN PRI Advanced Trunk - In only with DID & Hunting, or 2-Way with DID, Hunting & Answer Supervision				\$51.24			5
9.23.3.5.3	DSS, ISDN PRI Advanced Trunk - Out Only with Answer Supervision				\$52.54			5

**Exhibit A  
Arizona\***

		Recurring	Recurring, per Mile	Non-Recurring	R/C	Rec'd per Mile	N/C
9.23.3.6	Facilities for UNE - P DSS, UNE - P ISDN PRI						
9.23.3.6.1	DS1 Loop Facility			\$169.69			5
9.23.3.6.2	DS3 Loop Facility			\$169.69			5
9.23.3.7	UNE - P PRI Configurations						
9.23.3.7.1	UNE-P PRI Dedicated PRI 23 + D			\$680.72			5
9.23.3.7.2	UNE-P PRI Dedicated PRI 24			\$652.98			5
9.23.3.7.3	UNE-P PRI Dedicated PRI 23B + Back-Up D Configuration - 5E			\$657.27			5
9.23.4	Miscellaneous UNE-P DID Trunk Charges						
9.23.4.1	Complex Translations Digits Outpulsed Change Signaling			\$14.30			5
9.23.4.2	Intentionally Left Blank						
9.23.4.3	DID Block Compromise			\$25.18			5
9.23.4.4	DID Group of 20 Numbers			\$33.50			5
9.23.4.5	DID Reserve Sequential # Block			\$25.03			5
9.23.4.6	DID Reserve Nonsequential Telephone Number			\$23.37			5
9.23.4.7	Intentionally Left Blank						
9.23.4.8	DID Nonsequential Telephone Number			\$35.15			5
9.23.5	Intentionally Left Blank						
9.23.6	Loop MUX Combo (LMC)						
9.23.6.1	Interconnection Tie Pair						
9.23.6.1.1	DS1	\$0.85			A		
9.23.6.1.2	DS3	\$8.06			A		
9.23.6.2	Loop Mux 2-Wire Analog DS0						
9.23.6.2.1	LMC 2-Wire Loop Installation						
9.23.6.2.1.1	First			\$235.86			5
9.23.6.2.1.2	Each Additional			\$153.93			5
9.23.6.2.2	2-Wire Analog Loop						
9.23.6.2.2.1	Zone 1	\$9.05			A		
9.23.6.2.2.2	Zone 2	\$14.84			A		
9.23.6.2.2.3	Zone 3	\$36.44			A		
9.23.6.3	Loop Mux 4-Wire Analog DS0						
9.23.6.3.1	LMC 4-Wire Loop Installation						
9.23.6.3.1.1	First			\$235.86			5
9.23.6.3.1.2	Each Additional			\$153.93			5
9.23.6.3.2	4-Wire Analog Loop						
9.23.6.3.2.1	Zone 1	\$11.77			A		
9.23.6.3.2.2	Zone 2	\$19.29			A		
9.23.6.3.2.3	Zone 3	\$47.37			A		
9.23.6.4	Loop Mux DS1						
9.23.6.4.1	LMC DS1 Loop Installation						
9.23.6.4.1.1	First			\$298.35			5
9.23.6.4.1.2	Each Additional			\$218.44			5
9.23.6.4.2	DS1 Capable Loop						
9.23.6.4.2.1	Zone 1	\$67.39			A		
9.23.6.4.2.2	Zone 2	\$67.86			A		
9.23.6.4.2.3	Zone 3	\$76.06			A		
9.23.6.5	Private Line to Loop MUX Combo Conversion			\$40.32			A
9.23.6.6	LMC Multiplexing						
9.23.6.6.1	DS1 to DS0	\$206.95		\$198.55	A		5
9.23.6.6.2	DS3 to DS1	\$228.05		\$198.55	A		5
9.23.6.7	DS0 Channel Performance						
9.23.6.7.1	DS0 Low Side Channel Performance with Multiplexing	\$7.22			A		
9.23.7	Enhanced Extended Loop (EEL)						
9.23.7.1	EEL DS0 2-Wire Analog						
9.23.7.1.1	EEL 2-Wire Loop Installation						
9.23.7.1.1.1	Installation			\$6.50			A
9.23.7.1.1.2	Migration			\$18.88			A
9.23.7.1.1.3	Disconnect			\$5.98			A
9.23.7.1.2	2-Wire Analog Loop						
9.23.7.1.2.1	Zone 1	\$9.05			A		
9.23.7.1.2.2	Zone 2	\$14.84			A		
9.23.7.1.2.3	Zone 3	\$36.44			A		
9.23.7.2	EEL DS0 4-Wire Analog						
9.23.7.2.1	EEL 4-Wire Loop Installation						
9.23.7.2.1.1	Installation			\$6.50			A
9.23.7.2.1.2	Migration			\$18.88			A
9.23.7.2.1.3	Disconnect			\$5.98			A
9.23.7.2.2	4-Wire Analog Loop						
9.23.7.2.2.1	Zone 1	\$11.77			A		
9.23.7.2.2.2	Zone 2	\$19.29			A		

**Exhibit A  
Arizona\***

		Recurring	Recurring, per Mile	Non-Recurring	REC	REC per Mile	NRC
	9.23.7.2.2.3 Zone 3	\$47.37			A		
9.23.7.3	EEL DS1						
	9.23.7.3.1 EEL DS1 Loop Installation						
	9.23.7.3.1.1 Installation			\$6.79			A
	9.23.7.3.1.2 Migration			\$19.12			A
	9.23.7.3.1.3 Disconnect			\$6.56			A
	9.23.7.3.2 DS1 Capable Loop						
	9.23.7.3.2.1 Zone 1	\$67.39			A		
	9.23.7.3.2.2 Zone 2	\$67.86			A		
	9.23.7.3.2.3 Zone 3	\$76.06			A		
9.23.7.4	EEL DS3						
	9.23.7.4.1 EEL DS3 Loop Installation						
	9.23.7.4.1.1 Installation			\$6.79			A
	9.23.7.4.1.2 Migration			\$19.12			A
	9.23.7.4.1.3 Disconnect			\$6.56			A
	9.23.7.4.2 DS3 Capable Loop						
	9.23.7.4.2.1 Zone 1	\$739.07			A		
	9.23.7.4.2.2 Zone 2	\$749.77			A		
	9.23.7.4.2.3 Zone 3	\$932.82			A		
9.23.7.5	Intentionally Left Blank						
9.23.7.6	Private Line to EEL Conversion			\$40.32			A
9.23.7.7	Intentionally Left Blank						
9.23.7.8	EEL Transport						
	9.23.7.8.1 DS0						
	9.23.7.8.1.1 Over 0 to 8 Miles	\$52.27	\$0.00		A	A	
	9.23.7.8.1.2 Over 8 to 25 Miles	\$52.27	\$0.00		A	A	
	9.23.7.8.1.3 Over 25 to 50 Miles	\$52.27	\$0.00		A	A	
	9.23.7.8.1.4 Over 50 Miles	\$52.27	\$0.00		A	A	
	9.23.7.8.2 DS1						
	9.23.7.8.2.1 Over 0 to 8 Miles	\$35.98	\$0.65		C	C	
	9.23.7.8.2.2 Over 8 to 25 Miles	\$35.99	\$0.94		C	C	
	9.23.7.8.2.3 Over 25 to 50 Miles	\$36.00	\$1.75		C	C	
	9.23.7.8.2.4 Over 50 Miles	\$36.00	\$1.59		C	C	
	9.23.7.8.3 DS3						
	9.23.7.8.3.1 Over 0 to 8 Miles	\$243.17	\$13.32		C	C	
	9.23.7.8.3.2 Over 8 to 25 Miles	\$246.16	\$15.90		C	C	
	9.23.7.8.3.3 Over 25 to 50 Miles	\$250.66	\$22.91		C	C	
	9.23.7.8.3.4 Over 50 Miles	\$249.26	\$22.49		C	C	
	9.23.7.8.4 OC-3						
	9.23.7.8.4.1 Over 0 to 8 Miles	\$643.77	\$202.00		A	A	
	9.23.7.8.4.2 Over 8 to 25 Miles	\$648.75	\$64.95		A	A	
	9.23.7.8.4.3 Over 25 to 50 Miles	\$621.82	\$84.55		A	A	
	9.23.7.8.4.4 Over 50 Miles	\$639.09	\$59.87		A	A	
	9.23.7.8.5 OC-12						
	9.23.7.8.5.1 Over 0 to 8 Miles	\$1,805.35	\$96.02		A	A	
	9.23.7.8.5.2 Over 8 to 25 Miles	\$1,805.35	\$92.91		A	A	
	9.23.7.8.5.3 Over 25 to 50 Miles	\$1,805.35	\$104.87		A	A	
	9.23.7.8.5.4 Over 50 Miles	\$1,805.35	\$119.94		A	A	
	9.23.7.8.6 OC-48						
	9.23.7.8.6.1 Over 0 to 8 Miles	\$9,928.59	\$333.23		5	5	
	9.23.7.8.6.2 Over 8 to 25 Miles	\$9,928.59	\$356.98		5	5	
	9.23.7.8.6.3 Over 25 to 50 Miles	\$9,928.59	\$395.95		5	5	
	9.23.7.8.6.4 Over 50 Miles	\$9,928.59	\$486.88		5	5	
9.23.7.9	Intentionally Left Blank						
9.23.7.10	EEL Multiplexing						
	9.23.7.10.1 DS1 to DS0	\$206.95		\$253.59	A		A
	9.23.7.10.2 DS3 to DS1	\$228.05		\$253.59	A		A
9.23.7.11	DS0 Channel Performance						
	9.23.7.11.1 DS0 Low Side Channelization	\$11.32			A		
	9.23.7.11.2 DS1 / DS0 MUX, Low Side Channelization	\$7.22			A		
9.23.7.12	Concentration Capability		ICB		5		
9.24	Unbundled Packet Switching						
	9.24.1 Unbundled Packet Switch Customer Channel	\$22.98			B		
	9.24.1.1 DSLAM Functionality	\$19.92		SRP	B		11
	9.24.2 Unbundled Packet Switching Customer Channel and CLEC Provided Subloop			\$59.07			B
	9.24.3 Unbundled Packet Switching Customer Channel and Unbundled Distribution Subloop			\$124.92			B

**Exhibit A  
Arizona\***

		Recurring	Recurring, per Mile	Non-Recurring	REC	REC per Mile	NRC
9.24.4	Unbundled Packet Switching Customer Channel and Shared Distribution Subloop			\$59.07			B
9.24.4.1	Virtual Transport	\$23.39			5		
9.24.5	Unbundled Packet Switch Interface Port						
9.24.5.1	DS1	\$132.66		\$223.47	A		B
9.24.5.2	DS3	\$204.34		\$223.47	A		B
<b>10.0 Ancillary Services</b>							
<b>10.1 Local Number Portability</b>							
10.1.1	LNP Queries	See FCC Tariff #1 Section 13 & 20		See FCC Tariff #1 Section 13 & 20	4		4
10.1.2	LNP Managed Cuts						
10.1.2.1	Standard Managed Cuts per Person per Half Hour			\$27.31			1
10.1.2.2	Overtime Managed Cuts per Person per Half Hour			\$35.43			1
10.1.2.3	Premium Managed Cuts per Person per Half Hour			\$43.49			1
10.2	911 / E911	No Charge		No Charge			
<b>10.3 White Pages Directory Listings, Facility Based Providers</b>							
10.3.1	Primary Listing	No Charge		No Charge			
10.3.2	Premium / Privacy Listings	General Exchange Tariff Rate, Less Wholesale Discount		General Exchange Tariff Rate, Less Wholesale Discount			
<b>10.4 Directory Assistance, Facility Based Providers</b>							
10.4.1	Local Directory Assistance, per Call	\$0.34			2, 5		
10.4.2	National Directory Assistance, per Call	\$0.385			2, 5		
10.4.3	Call Branding, Set- Up and Recording-Individual session						
10.4.3.1	Individual session			\$35,000.00			2, 5
10.4.3.2	Shared recording session (minimum 3 customers per session)			\$15,000.00			2, 5
10.4.4	Loading Brand, per Switch			\$175.00			2, 5
10.4.5	Call Completion Link, per call	\$0.085			2, 5		
<b>10.5 Directory Assistance List Information</b>							
10.5.1	Initial Database Load, per Listing	\$0.025			2, 5		
10.5.2	Reload of Database, per Listing	\$0.02			2, 5		
10.5.3	Daily Updates, per Listing	\$0.025			2, 5		
10.5.4	One-time Set-Up Fee, per Hour			\$82.22			2, 5
10.5.5	Media Charges for File Delivery						
10.5.5.1	Electronic Transmission	\$0.00			2, 5		
10.5.5.2	Tapes (charges only apply if this is selected as the normal delivery medium for daily updates) (per tape)	\$30.00			2, 5		
10.5.5.3	Shipping Charges (for tape delivery)			ICB			5
<b>10.6 Toll and Assistance Operator Services, Facility Based Providers,</b>							
10.6.1	Option A - Per Message						
10.6.1.1	Operator Handled Calling Card	\$1.45			2, 5		
10.6.1.2	Machine Handled Calling Card	\$0.60			2, 5		
10.6.1.3	Station Call	\$1.50			2, 5		
10.6.1.4	Person Call	\$3.50			2, 5		
10.6.1.5	Connect to Directory Assistance	\$0.75			2, 5		
10.6.1.6	Busy Line Verify, per Call	\$0.72			2, 5		
10.6.1.7	Busy Line Interrupt	\$0.87			2, 5		
10.6.1.8	Operator Assistance, per Call	\$0.87			2, 5		
10.6.2	Option B - Per Operator Work Second and Computer Handled Calls						
10.6.2.1	Operator Handled, per Operator Work Second	\$0.181			2, 5		
10.6.2.2	Machine Handled, per Call	\$0.25			2, 5		
10.6.2.3	Call Branding, Set-Up & Recording			\$10,500.00			2, 5
10.6.2.4	Loading Brand/Per Switch			\$175.00			2, 5
<b>10.7 Access to Poles, Ducts, Conduits and Rights of Way</b>							
10.7.1	Pole Inquiry Fee, per Mile			\$317.28			2, 5
10.7.2	Innerduct Inquiry Fee, per Mile			\$381.38			2, 5
10.7.3	ROW Inquiry Fee			\$140.95			2, 5
10.7.4	ROW Document Preparation Fee			\$140.95			2, 5
10.7.5	Field Verification Fee, per Pole			\$35.24			2, 5
10.7.6	Field Verification Fee, per Manhole			\$140.95			2, 5
10.7.7	Planner Verification, per Manhole			\$15.72			2, 5
10.7.8	Manhole Verification Inspector per Manhole			\$281.90			2, 5
10.7.9	Manhole Make-Ready Inspector, per Manhole			\$422.85			2, 5
10.7.10	Intentionally Left Blank						
10.7.11	Pole Attachment Fee, per Foot, per Year						
10.7.11.1	Urban						
10.7.11.1.1	2004	\$3.23			4		
10.7.11.1.2	2005	\$3.47			4		

**Exhibit A  
Arizona\***

	Recurring	Recurring, per Mile	Non- Recurring	REC	REC per Mile	NRC
10.7.11.2 Non-Urban						
10.7.11.2.1 2004	\$4.64			4		
10.7.11.2.2 2005	\$5.23			4		
10.7.12 Innerduct Occupancy Fee, per Foot, per Year	\$0.36			4		
10.7.13 Access Agreement Consideration			\$10.00			2
10.7.14 Make Ready			ICB			5
<b>12.0 Operational Support Systems</b>						
12.1 Development and Enhancements, per Order			Under Development			
12.2 Ongoing Maintenance, per Order			Under Development			
12.3 Daily Usage Record File, per Record	No Charge at this time			5, 12		
12.4 Trouble Isolation Charge			See Section 9.20			
<b>17.0 Bona Fide Request Process</b>						
17.1 Processing Fee			\$2,367.93			A

**NOTES:**

Unless otherwise indicated, all rates are pursuant to Arizona Corporation Commission Dockets listed below:

- A: Cost Docket T-00000A-00-0194 Phase II Order No. 64922 Effective 6/12/02
- B: Cost Docket T-00000A-00-0194 Phase IIA Order No. 65451 Effective 12/12/02
- C: Cost Docket T-00000A-00-0194 Phases II & IIA Record Reopened Decision No. 66385 Effective Dates 6/12/02 & 10/6/03

[1] Rate not addressed in Cost Docket (estimated TELRIC).

[2] Market-based rates

[3] ICB, Individual Case Basis pricing.

[4] Rates per FCC Guidelines.

[5] Rates for this element will be proposed in Arizona Cost Docket Phase III and may not reflect what will be proposed in Phase III. There may be additional elements designated for Phase III beyond what are reflected here.

[6] When intrastate tariffed DS3 Private Line Transport (PLTS), Local Interconnection Service (LIS) or EEL share the same PLTS multiplexed DS3, the fraction of DS0's dedicated to LIS, EEL, or intrastate PLTS is divided by 672 and multiplied by the applicable products' DS3 rate elements. The Qwest mechanized implementation team will notify the Qwest Service Delivery LIS process manager of this customer-specific requirement.

[7] Qwest is reinstating the Cable Unloading /Bridge Tap Removal Charge effective 3/14/05. Qwest can't bill the current rate structure, but will bill customers the lowest rate.

[8] Qwest has not implemented the NID recurring charges but reserves the right to access such a charge in the future.

[9] All technically feasible Vertical Switch Features are available with compatible unbundled switch ports. No monthly recurring charge applies for Basic Vertical Switch Features. Only Basic Vertical Features with non-recurring charges are listed. Non-recurring charges are applicable whenever a feature is added - whether on new installation, conversion, or change order activity.

[10] Qwest will utilize the Commission TELRIC ordered rates for this element. However, Qwest reserves its right to implement market based prices sometime in the future pursuant to CC Docket No. 96-98, paragraphs 278-287.

[11] A request by the customer to perform something that is technically feasible but the process and pricing are not yet in place.

[12] Per the terms of the Stipulated Agreement reached November 2001, Qwest will not charge for this element until the Commission has an opportunity to review and approve in Phase III of the cost proceeding.

Rebuttal Testimony of Michael Starkey  
ACC Docket Nos. T-03267A-06-0105/  
T-01051B-06-0105

# Exhibit MS-4

## Collocation Application



- Interstate Tariff
- State Tariff
- Interconnection Contract
- Early Ordering

**F. APPROVED INTERCONNECTION BUILD INTERVAL**  
 Will be determined from your Interconnect Agreement.

**G. Qwest WHOLESALE COLLOCATION SERVICE MANAGER**

- 1. Name
- 2. Telephone Number
- 3. e-mail address

**H. CENTRAL OFFICE LOCATION**

	Central Office Name
	Street Address
	City
	State
	8 Character Central Office CLLI.
	Existing 11 Character CLEC CLLI Code (if applicable)
	Job ID (BAN #) from latest completed or pending job
	Associated Job ID(s) (if applicable)

**I. COLLO CLASSIFIED ID**

11 Character Collo Classified ID (if requesting a vacated site)

**J. TYPE OF ORDER (check one)**

- New (without a Collo Classified request)
- New (with a Collo Classified request)
- Change (Prior to 50% down is paid. After that, an augment must be submitted)
- Augment

- 1. Each application must be filled out completely, i.e. a submission requesting a Change to an original application should be filled out as though the Change were embedded in the original submission.
- 2. Change requests require the following information:

a. Section and subsection(s) that are changed from your last submission, e.g. II.E.2.d).1).ii.


b. Description of the changes being requested:


**K. EXISTING COLLOCATION ARRANGEMENT (check one if applicable)**

- Caged Physical
- Cageless Contiguous Physical
- Cageless Non-Contiguous Physical (also specify the space in Section II.E.2.f.)
- Virtual
- ICDF Collocation
- Shared Caged Physical

**L. SECURITY ACCESS REQUIREMENTS (enter quantity)**

Number of Personnel Requiring Access to Central Office

(Not applicable with an Augment nor Virtual request)

**M. JOINT TESTING OPTION (check if applicable)**

- 1. New or Augment requests for the Joint Testing of newly placed facilities or Available Inventory facilities should be applied for using this application, requests to jointly test previously installed facilities are to be made using a special application entitled *Joint Testing*, accessible at the web site noted at the beginning of this application form.

2. Would you like Joint Testing to the ICDF with Qwest of facilities placed with this request after your equipment has been installed? (Yes/No)

If Yes is checked above please complete the following sections.

3. Describe the type of Joint Testing you would like to conduct with Qwest.


4. Joint Testing contact information (input all applicable)

a. Primary Contact (required)

1). Name	
2). Telephone Number	
3). e-mail address	

b. Secondary Contact (if applicable)

1). Name	
2). Telephone Number	
3). e-mail address	

c. Indicate the best time to reach the contact(s) listed above.

5. If Yes checked above enter quantity(s) by circuit type(s) to be jointly tested:

Circuit Type	
DS0	
DS0 (Line Sharing)	
DS1	
DS3	
Fiber	

**N. ICB (Individual Case Basis) PROCESS**

Several products and services listed as ICB can be ordered using this application. The handling of those components will follow the ICB process. Please fill in the specific details of your ICB request in Section VI (NOTES).

Note: If a single ICB item is included in this application the entire job will be handled as ICB, i.e. regular ICA (Inter Connection Agreement) intervals will not apply.

**II. COLLOCATION ARRANGEMENT, SPACE DETAIL, AND TECHNICAL EQUIPMENT**

**A. CHOICES SUBMITTED**

- 1st Choice (this tab)
- 2nd Choice (to be filled out if the SECOND CHOICE tab is filled out)
- 3rd Choice (also fill out separate tab labeled THIRD CHOICE, if applicable)

Note 1: This application permits a CLEC to request a second and third choice of Collocation Arrangement/Space/Equipment. Qwest will study the feasibility of the 2nd or 3rd choices in the event that the 1st or 2nd (respectively) choices are not feasible. Check the number of choice requests being submitted with this application and fill in the appropriate detail found in the associated tabs of this application for each choice selected.

Note 2: 2nd or 3rd choice options will not be considered unless the 2nd and 3rd choice tabs of this application are filled out. If no 2nd or 3rd option is requested, a new application will need to be filled out if the original option was not available.

Note 3: CLECs requesting a site from the Collo Classified, and who wish to be considered for an alternate site if the Collo Classified site is unavailable, must complete a 2nd and/or 3rd Choice tab as part of this submission.

Note 4: If a requested Collo Classified site is not available, and the CLEC did not specify a 2nd or 3rd choice, the request will be cancelled.

**B. REQUESTED COLLOCATION ARRANGEMENT**

1. Arrangement Type (check one if applicable):

- |   |                          |                                    |
|---|--------------------------|------------------------------------|
| <input type="checkbox"/> Caged Physical                 | <input type="checkbox"/> | (also Complete Section II E and F) |
| <input type="checkbox"/> Cageless Contiguous Physical   | <input type="checkbox"/> | (also Complete Section II E and F) |
| <input type="checkbox"/> Virtual                        | <input type="checkbox"/> | (also Complete Section II C and F) |
| <input type="checkbox"/> ICDF Collocation               | <input type="checkbox"/> |                                    |
| <input type="checkbox"/> Shared Caged Physical          | <input type="checkbox"/> | (also Complete Section II D)       |
| <input type="checkbox"/> Virtual to Cageless Conversion | <input type="checkbox"/> | (also Complete Section IV D)       |

2. If Cageless Contiguous Physical is checked above and Cageless Contiguous Physical is not available will you accept non-contiguous cageless space? (Yes/No)

**C. VIRTUAL COLLOCATION EQUIPMENT/SPACE/TERMINATIONS REQUIREMENTS**

1. Please select the type of equipment configuration to be provided by the CLEC (check all applicable)

- Equipment Bay(s) with equipment
- Equipment Bay(s) pre-provisioned (equipment and cards) and delivered to the Central Office
- Equipment only

Note: Also complete Section II.F.

2. Bay requirements (fill in all applicable)

a.) Number of Bays (fill in quantity)

Desired

Minimum

Width

Depth

b.) Bay Footprint dimensions (input dimensions in inches)

c.) If Bay Spacers are to be used (input their dimensions in inches)

3. Enter fiber connector type at the CLEC site, e.g. FC, PC, ST, D4, etc. (if applicable)

4. Notes Section

Note 1: A drawing(s) must accompany this application showing:

- a. A floor plan documenting space layout or footprint of collocation equipment must be attached to this application, to include front equipment diagram with frame and shelf detail.
- b. Diagram of equipment showing input and output for all virtual transport equipment, e.g. optical input, electrical output, wiring diagram, etc.
- c. Relay rack, panel, and jack/port location detail of existing equipment and terminations impacted by the changes/augments requested with this application, if applicable.

Note 2: Qwest provides cabling/wiring to interconnect the CLEC's Virtual equipment to the network; CLECs must provide all cabling/wiring needed to interconnect their Virtual equipment.

D. SHARED CAGED PHYSICAL COLLOCATION DETAIL

1. Originating CLEC Information (fill in both cells)

a. Name

b. 11 Character CLEC CLLI Code (if applicable)

2. Secondary CLEC Information (fill in all cells)

a. Name

b. 11 Character CLEC CLLI Code (if applicable)

c. Percentage (%) of space allocated

d. Secondary CLECs Letter of Authorization must be on record with Qwest.

3. Type of Shared Caged Arrangement (check one)

Joint

Sublease

E. CAGED, CAGELESS, AND NEW COLLO CLASSIFIED SPACE REQUEST

1. Caged Physical Collocation Requirement

a. Does the CLEC wish to provide and install the physical cage enclosure? (Yes/No)

b. New Caged detail (enter square footage requested)

c. Augment Caged detail

1). Does the CLEC wish to change the square footage of their existing Caged site? (Yes/No)

2). If Yes was entered above enter square footage details:

a). Increase (enter as a positive number)

b). Decrease (enter as a negative number)

Existing

Desired

Minimum

2. Cageless Physical Collocation Requirements

a. New Cageless detail

1). Number of bays requested (fill in quantity)

Desired

Minimum

2). Bay footprint dimensions (enter dimensions in inches)

3). If bay spacers are to be used (enter dimensions in inches)

Width

Depth

b. Augment Cageless Detail

1). Does the CLEC wish to change the number of bays in their existing Cageless site? (Yes/No)

2). If Yes was entered above, enter the following details:

a). Existing number of bays (enter quantity)

b). Increase

i. Number of bay(s)

ii. Footprint dimensions of additional bay(s) (enter inches)

iii. Dimensions of bay spacers if being added (enter inches)

c). Decrease

i. Number of bay(s) (enter quantity as a negative number)

ii. Footprint dimensions of reduced bay(s) (enter inches)

iii. Dimensions of bay spacers being removed (enter inches)

Additional

Minimum

Width

Depth

Reduced

Minimum

Width

Depth

Requested

Minimum

3). Net number of Cageless bays (Existing plus Increase less Decrease)

3. Collo Classified Requirements

Note : An application including a Collo Classified Special Site Caged or Cageless space can include an increase in the number of bays and/or square footage but not a Decrease.

- a. Does the CLEC request a site from the Collo Classifieds? (Yes/No)
- b. If Yes entered above, check the type of Classified site being requested?  Standard Cage  Standard Cageless  Special Caged  Special Cageless
- c. If Yes was entered above, answer the following questions.
- 1). Caged Classified Request
- a). Collo Classified Caged square footage (enter footage from the Classifieds)  Classified
- b). Does the CLEC wish to change the square footage of the Classified Caged site? (Yes/No)
- c). If Yes was entered above enter the following details:
- i. Increase (enter additional square footage requested as a positive number)  Desired
- ii. Decrease (enter reduced square footage requested as a negative number)
- d). Net square footage (Classified plus Increase less Decrease)
- 2). Cageless Classified Request
- a). Number of Collo Classified bays (enter quantity from the Classifieds)  Classified
- b). Bay footprint dimensions (enter dimensions in inches from the Classifieds, if available)  Width  Depth
- c). Does the CLEC wish to change the size of the Classified Cageless site? (Yes/No)
- d). If Yes was entered above, enter Increase or Decrease details:
- i. Increase
- ii. Number of additional bays requested (enter quantity of additional bays as a positive number)  Additional  Width  Depth
- iii. Footprint dimensions of additional bay(s) (enter inches)
- iv. Dimensions of bay spacers if requested (enter inches)
- ii. Decrease
- iii. Number of Classified bays to reduce (enter quantity of reduced bays as a negative number)  Reduced  Width
- iv. Net number of Cageless bays (Classified plus Increase less Decrease)
4. Non-Contiguous Cageless Space detail (complete if applicable)
- a. Is the CLEC requesting an augment change to an existing non-contiguous cageless site? (Yes/No)
- b. If Yes was checked above, enter the assigned cageless bay number(s) where the augment work is to take place and description of the related work in addition to the space detail information above:

Bay Number(s)	Description of Augment Work

5. Notes Section

- Note 1: Qwest line-up standard bays are 7 feet high, 26 inches wide and 12 or 15 inches deep. Requests for the placement of bays or equipment that exceed the existing relay rack footprint of a CLEC's site may result in the placement of the bay or equipment in line-ups that may be non-contiguous to the rest of the site.
- Note 2: Qwest does not honor requests by CLECs to customize Collocation space including, but not limited to, placing power outlets at specific locations within the Collocation space and providing Collocation space in specific locations.
- Note 3: Bay extenders may not be applicable in earthquake areas.
- Note 4: Enter reduced amounts as negative numbers, e.g. -10.
- Note 5: You must provide the Minimum acceptable square footage if you want Qwest to look for square footage less than the stated desired amount.
- Note 6: Spacer, QWEST has standardized on two widths for spacers placed between bays, 2-1/2 (2.5) inches or 5 inches. No other spacer width shall be accepted for use within QWEST Central Offices or facilities unless specifically stated in QWEST Standard Configuration documents or evaluated by the QWEST Representative responsible for Common Systems standards

F. CLEC EQUIPMENT SPECIFICATIONS

1. All equipment must be necessary for access to UNEs, Ancillary Services, and/or Finished Services.
2. Heat Load detail:
- a. Average watts per bay(s) (input watts)
- Note: If any given bay exceeds 1200 watts, request to be handled as ICB.
- b. Total heat load for initial deployment (input total watts)

- c. Total heat load for overall anticipated deployment (input total watts)
3. Weight detail:
- a. Average weight of bay(s) (input pounds)
- b. Total weight for initial deployment (input pounds)
- c. Total weight for overall anticipated deployment (input pounds)
- Note: Equipment Frames, which conform to a specific standard floor configuration, should not exceed an optimal limit of 115 pounds per square foot for standard floor plans. This information can be found in Technical Publication 77351.

4. Equipment detail:

Equipment Description		Functionality (see below)	Dimensions (input inches)		Quantity
Manufacturer Name	Model #		W x H x D		

- Note 1: Collocation equipment must meet NEBS 1 standards and other safety standards as applies to Qwest. Refer to Technical Publication 77351 for additional information.
- Note 2: Functionality Examples: cross connect, DLC, router, ATM multiplexing, DSLAM, power, transmission, switch, etc.
- Note 3: Always allowed are DSLAM, ATMs, RSUs, routers and concentrators, testing, and network management equipment. Qwest may require a written inventory of all switching equipment and a description of how it will be used for interconnection and/or access to Unbundled Network Elements.

III. PRODUCTS, CIRCUIT DETAIL, CLEC CABLES, SYNC, AND POWER

A. PRODUCT/SERVICES REQUESTED (check one or more)

<input type="checkbox"/>	Unbundled Network Elements (UNEs)	Complete Section III B
<input type="checkbox"/>	ICDF Collocation	Complete Section III B
<input type="checkbox"/>	Administrative Line (Copper DMARC)	Complete Section III B and reference III D
<input type="checkbox"/>	Synchronization	Complete Section III E
<input type="checkbox"/>	Power	Complete Section III F
<input type="checkbox"/>	Splitter Collocation	Complete Section III B and IV A
<input type="checkbox"/>	Finished Services	Complete Section III B and IV B
<input type="checkbox"/>	Direct CLEC to CLEC Connection	Complete Section IV C
<input type="checkbox"/>	Virtual to Cageless Conversion	Complete Section IV D
<input type="checkbox"/>	Fiber Entrance Facilities	Complete Section V
<input type="checkbox"/>	Leased Private Line	Complete Section V
<input type="checkbox"/>	Other Entrance Facilities	Complete Section V
<input type="checkbox"/>	Other	Complete Section VI and applicable other Sections

B. CIRCUIT/ICDF COLLOCATION LEG QUANTITY (enter desired quantities)

		UNEs (See Note 6)	Common Area Splitter (See Note 4)	In-Site Splitter (See Note 5)	Common Area Splitter Collocation (Converted DS0 UNEs - Notes 4 & 6)	In-Site Splitter Collocation (Converted DS0 UNEs - Notes 5 & 6)	Finished Services - Leased Private Lines	Administrative Facilities (See Note 14)	ICDF Collocation (See Note 7)	Total Requested Circuits	Total Required Circuit Legs/Fiber Strands	Minimum Increments
Inventory	POTS (Splitter)								0	0	100	
	DS0								0	0	Note 3	
	DS1								0	0	1	
	DS3								0	0	1	
	Fiber (See Note 10)								0	0	6	
2. New/Augment/ Reduction	POTS								0	0	1	
	POTS (Splitter)								0	0	100	
	DS0								0	0	Note 3	
	DS1								0	0	1	
	DS3								0	0	1	
	Fiber (See Note 10)								0	0	6	
3. Net Circuit	POTS						0		0	0		

and Leg Counts	POTS (Splitter)		0	0			0	0
	DS0	0					0	0
	DS1	0			0		0	0
	DS3	0			0		0	0
	Fiber	0					0	0

**4. Notes Section**

**General**

- Note 1: Enter reduced quantities as negative numbers, e.g. -100.
- Note 2: Enter quantities from the Collo Classified (if applicable) into the Existing sub-section, enter requested additional, converted (Standard Site only), or reduced quantities (Standard Site only) in the New/Augment/Reduction sub-section.
- Note 3: The preferred minimum increment of Non-ICDF Collocation DS0s is 100, however CLEC can order less.

**Splitter Collocation (AKA Line Sharing)**

- Note 4: Common Area Splitters require only one POTS pair per circuit (Data Only to the CLEC site from the splitter), e.g. 100 entered above will be followed up with the provisioning of 100 pairs.
- Note 5: In-Site Splitters require two separate POTS pairs per circuit (Voice and Data and Voice Only), e.g. 100 entered above will be followed up with the provisioning of 200 pairs (two for one).
- Note 6: Existing DS0 UNEs to be converted to Splitter Collocation POTS should be entered as positive numbers. The Net sub-section will reduce the number of DS0s by an appropriate quantity (e.g. it takes two converted DS0s to equal a single In-Site circuit) and increase the Splitter POTS quantity by the corresponding amount.

**ICDF Collocation**

- Note 7: Each ICDF Collocation circuit requires two legs to be subsequently jumpered together in order to create a single circuit, e.g. a DS1 quantity of 1 entered above would be pre-provisioned with 2 dedicated Qwest tie cables. A quantity of 2 would also appear on the APOT.
- Note 8: ICDF Collocation is a stand alone arrangement providing network terminations in a Central Office. It is used for, but not pre-provisioned with, other types of services, e.g. Finished Services.
- Note 9: Qwest will endeavor to pre-provision all ICDF Collocation terminations on a frame sharing a contiguous wiring trough (enables the CLEC to run their own jumpers between the terminations).

**Fiber**

- Note 10: Each fiber circuit is made up of two strands of fiber, e.g. a quantity of 36 (circuits) entered above will be followed up with the provisioning of 72 strands of fiber.
- Note 11: Fiber is extended from a CLEC site to Qwest Fiber Distribution Panel (FDP) to be used in the design of related products. Fiber extending from the CLEC site to an FDP that is to be used as part of a Shared Fiber Circuit is not entered above but captured in the Fiber Entrance Facilities section of this application.
- Note 12: All fiber is installed with the CLEC end stubbed (requires subsequent connectorization) except for fiber placed as part of Virtual Collocation.
- Note 13: If multiple runs of Fiber are required each run must be made up with at least the minimum sized cable (12 strands).

**Administrative Facilities**

- Note 14: Physical sites come provisioned with a Network Interface that can accommodate up to six Administrative Lines. Only enter desired quantities that exceed the 6, e.g. a quantity of 2 entered above would be followed up with the provisioning of Network Interface device(s) that will accommodate 8 Administrative Lines.

**C. CABLE AND ICDF PROVISIONING (Caged and Cageless Collocation only)**

**1. Cable Provisioning**

**a. CLEC Provided Cable for Installation by Qwest:**

- 1). Does the CLEC wish to provide their own cable to the ICDF for installation by Qwest? (Yes/No)

Note 1: Non-standard, e.g. shielded 25 pair, cable must be provided by the CLEC and addressed as ICB.

Note 2: Fiber cable will be Optical Network Riser (OFNR) rated.

Note 3: Includes cabling from a CLEC site to an ICDF to be used with Splitter Collocation.

Note 4: If Yes is checked, the answer to the question posed in III.C.1.b.1). below must be No.

- 2). If Yes is checked above, please check the category(ies) of cabling to be provided by the CLEC.

DS0	<input type="checkbox"/>
DS1	<input type="checkbox"/>
DS3	<input type="checkbox"/>
Fiber	<input type="checkbox"/>

**b. CLEC Provided and Installed Cabling:**

- 1). Does the CLEC wish to provide, install, and terminate on the ICDF(s) the associated CLEC cabling between their site and the ICDF? (Yes/No)

Note 1: Qwest will provide the cable route to be used by the CLEC.

Note 2: If Yes is checked, the answer to the question posed in III.C.1.a.1). above must be No.

- 2). If Yes is checked above, please check the category(ies) of cabling to be provided, installed, and terminated by the CLEC on the ICDF.

DS0	<input type="checkbox"/>
DS1	<input type="checkbox"/>

DS3   
 Fiber

**2. ICDF Provisioning**

**a. CLEC Provided ICDF Hardware:**

1). Does the CLEC wish to provide the ICDF hardware associated with this job for installation by Qwest? (Yes/No)

Note: If Yes is checked, the answer to the question posed in III.C.2.b.1). below must be No.

2). If Yes is checked above, please check the class(es) of ICDF to be provided by the CLEC.

DS0   
 DS1   
 DS3   
 Fiber

**b. CLEC Provided ICDF Hardware and Cable Termination:**

1). Does the CLEC wish to provide and install the ICDF hardware associated with this job along with terminating their cabling on the ICDF hardware? (Yes/No)

Note: If Yes is checked, the answer to the question posed in III.C.2.a.1). above must be No.

2). If Yes is checked above, please check the type of ICDF to be provided, installed, and terminated by the CLEC.

DS0   
 DS1   
 DS3   
 Fiber

Note 1: Qwest will inform the CLEC of the hardware to be provided and cable routes if applicable.

Note 2: All ICDF hardware becomes the property of Qwest and will not be returned to the CLEC at the time of decommissioning.

**D. ADMINISTRATIVE FACILITIES**

Protected Network Interface(s) equipped with modular terminations for 6 POTS (Plain Old Telephone Service) lines will be pre-provisioned as part of the initial build-out of a CLEC site. Administrative Facilities lines, e.g. 1FB, are ordered by submitting an LSR provisioning request(s).

**E. SYNCHRONIZATION REQUIREMENTS**

1. Does the CLEC require Qwest to provide synchronization? (Yes/No)

2. If the response above is Yes, please indicate the type of signal requested (check one)

T1 (DS1) Capacity (TOTA)  
 Composite Clock (TOCA)

3. If the response above is Yes, please fill in the number of leads required, e.g. 1 or 2.

**F. POWER REQUIREMENTS**

**1. AC Power Requirements**

- a. Qwest provides a 120v AC circuit with 3 convenience outlets at each caged site, per local building code with Non-Essential power (not backed up by an Engine-Alternator).
- b. Standard design parameters call for the placement of a shared AC outlet with Non-Essential power at every third bay in a Qwest line-up, including those containing CLEC bays/equipment.
- c. Requests for additional, or rearrangement of, Essential AC Power (interruptible) leads are handled as ICB. Please describe your needs in the Notes section below.
- d. Uninterruptible AC Power can be generated by a CLEC with a CLEC provided inverter (Qwest does not supply Inverters for CLEC use) located within the CLEC's site that is powered by their DC Power Feed(s). Requests for Uninterruptible AC Power supplied by Qwest are handled through the BFR (Bonafide Request) process.

**2. DC Power Requirements**

**a. General Information/Definitions:**

- 1). Configuration: -48V DC Battery and Battery Returns.
- 2). DC Power Feed (Feed/Feeder):
  - a). A DC Power Feed is made up of two Leads (A and B); each Lead is composed of 2 sets of cables (4 total) and a corresponding set of Returns.
  - b). The minimum number of DC Power Feeds a CLEC can have in a site is one (A and B Leads), providing a minimum of 20 amps.
  - c). Each set of power cables will be tagged (e.g. 145C tag) with the far end power source location, e.g. BDFB or PDB relay rack number(s), and fused/breaker positions. It is the responsibility of the CLEC to maintain a record of the far end power source locations for all power cabling terminating in their site.
  - d). When placing an order impacting existing DC Power Feed(s), the CLEC must identify the specific Leads by power source location, using the identifying information on the tags (relay rack and fuse positions).
  - e). Qwest will fuse/breaker at an appropriate level above the requested amount.

f). Breaker/fuse size to be determined solely by Qwest.

3). Definitions:

- a). NEW: request to establish power Feed(s) as part of a new build.
- b). Augment: change to or addition of feed(s) to an existing site, see below for various types.

i. Power Reduction

i). REDUCTION WITHOUT RESERVATION: reduces the amps of an existing Primary and/or Secondary Feed(s).

Note 1: The reduced feed(s) must remain powered with a minimum of 20 amps.

Note 2: Qwest will determine whether the cabling making up the existing feed(s) can be reused to meet your request or if new cabling will be required.

ii). REDUCTION WITH RESERVATION: reduces the amps of an existing Secondary Feed(s) to zero, reserves the fuse positions of the Feed(s) at the power source, and cabling to the power source is left in place for potential Restoration.

ii. Power Restoration

i). RESTORATION WITHOUT RESERVATION: restores a Primary or Secondary Feed(s) previously reduced as part of a Reduction Without Reservation request back to their original or less amps value(s).

Note 1: Restoration of a previously reduced Feed(s) can only be to the same or lesser values of amps (20 amp minimum); a request to increase the amps of a Feed to a greater value constitutes an Increase Amps on an Existing, see below.

Note 2: Restoration of a previously reduced Primary or Secondary Feed is contingent on the availability of spare amps at the power source at the time of the request.

Note 3: Qwest will determine whether the cabling making up the existing feed(s) can be reused to meet your request or if new cabling will be required.

ii). RESTORATION WITH RESERVATION: restores a Secondary Feed(s) previously Reduced With Reservation.

Note 1: Restoration of a previously Reduced With Reservation Secondary Feed(s) is contingent on the availability of spare amps at the power source at the time the restoration request is made.

Note 2: Qwest will determine whether the cabling making up the existing feed(s) can be reused to meet your request or if new cabling will be required.

iii. ADD SECONDARY FEED(S): incremental addition of another Feed(s) to an existing site having at least one Primary Feed.

iv. DEACTIVATION: elimination of a Secondary Feed(s), at least one Primary Feed powered with a minimum of 20 amps must remain.

Note: Once a Feed is deactivated it cannot be restored, i.e. to establish a like Feed requires the submission of a Add Secondary Feed(s) request, see above.

v. INCREASE AMPS ON AN EXISTING FEED(S): adds additional amps to a Feed(s).

Note 1: To increase amps on an Existing Feed(s) back up to a level up that was previously reduced, see Restoration above.

Note 2: Qwest will determine whether the cabling making up the existing feed(s) can be reused to meet your request or if new cabling will be required.

b. DC Power Ordering Information

1). NEW	Amps Required per Feed	Amps (enter value(s))	Feed(s) (enter quantity)
	20 amps		<input type="text"/>
	30 amps		<input type="text"/>
	40 amps		<input type="text"/>
	60 amps		<input type="text"/>
	Other	<input type="text"/>	<input type="text"/>

Note: If requesting a Special Collo Classified site, enter the existing power feed information from the Classifieds in the Existing Feed(s) section of the ADD SECONDARY FEED(S) section of the Augment section below.

2). Augment (enter all applicable data)

a). Power Reduction

i. REDUCTION WITHOUT RESERVATION

Amps			Feeder(s) Power Source(s)	
Existing	Requested	Decrease	Relay Rack(s)	Fuse Positions
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

ii. REDUCTION WITH RESERVATION

i). Secondary Feed(s) to be Reduced to Zero

Current Amps	Feeder(s) Power Source(s) Relay Rack(s)	Fuse Positions
<input type="text"/>	<input type="text"/>	<input type="text"/>


ii). Unaffected Feed(s)

Amps	Feeder(s) Power Source(s)	
	Relay Rack(s)	Fuse Positions

**b). Power Restoration**

i. RESTORATION WITHOUT RESERVATION

i). Job ID (BAN #) of Reduction Without Reservation Job

ii). Feed(s) to be restored

Amps			Feeder(s) Power Source(s)	
Existing	Requested	Increase	Relay Rack(s)	Fuse Positions

ii. RESTORATION WITH RESERVATION

i). Job ID (BAN #) of Reduction With Reservation Job

ii). Secondary Feed(s) to be restored

Amps	Feeder(s) Power Source(s)	
	Relay Rack(s)	Fuse Positions

**c). ADD SECONDARY FEED(S)**

Amps Required per Feed	Existing Feed(s)		Additional Requested Feed(s)	
	Amps (enter value(s))	Feed(s) (enter quantity)	Amps (enter value(s))	Feed(s) (enter quantity)
20 amps				
30 amps				
40 amps				
60 amps				
Other				

Note: If requesting a Special Collo Classified site, enter the existing power feed information from the Classifieds in the Existing Feed(s) section. Additional feed(s) to a Special Collo Classifieds may be requested with this application; change(s) to a Special Site Collo Classified power feed(s) cannot be made as part of the request that establishes the Special Site for the assuming CLEC. Changes to Special Site power feeds can be requested with the submission of a subsequent Augment application.

**d). DEACTIVATION**

i. Secondary Feed(s) to be Deactivated (removed)

Amps	Feeder(s) Power Source(s)	
	Relay Rack(s)	Fuse Positions

ii. Unaffected Feed(s)

Amps	Feeder(s) Power Source(s)	
	Relay Rack(s)	Fuse Positions

**e). INCREASE AMPS ON AN EXISTING FEED(S)**

Amps			Feeder(s) Power Source(s)	
Existing	Requested	Increase	Relay Rack(s)	Fuse Positions

**c. Heat Dissipation Forecast** (enter all applicable values and quantities)

Amperage (amount(s))	Feed(s) (quantity)	Heat Dissipation Forecast (enter values in watts)				
		Initial	3 Months	6 Months	1 Year	Ultimate

Note: If requesting a change to an existing site, enter the incremental change in heat dissipation.

**IV. SPECIFIC PRODUCT REQUIREMENTS**  
**A. SPLITTER COLLOCATION**

1. Desired location and type of Splitter(s) (check 1st Choice and 2nd Choice (if applicable))

a. Common Area Splitter

- |     |                                      |                          |                              |
|-----|--------------------------------------|--------------------------|------------------------------|
|     |                                      | <u>1st Choice</u>        | <u>2nd Choice (optional)</u> |
| 1). | Central Office Bay (rack mounted)    | <input type="checkbox"/> | <input type="checkbox"/>     |
| 2). | Central Office Frame (frame mounted) | <input type="checkbox"/> | <input type="checkbox"/>     |

b. In-Site Splitter

- |     |                                   |                          |                          |
|-----|-----------------------------------|--------------------------|--------------------------|
| 1). | CLEC Site (rack or frame mounted) | <input type="checkbox"/> | <input type="checkbox"/> |
|-----|-----------------------------------|--------------------------|--------------------------|

Note: Qwest installs all Common Area Splitters; In-Site Splitters are only installed by the CLEC with the exception of Virtual Collocations.

2. Splitter Equipment Detail (entering second choice detail is optional)

a. Splitter and Card detail

1). Splitter

Choice	Manufacturer	Model #	Quantity	Type (check one)	
				Frame	Rack
1st	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>
2nd	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>

2). Splitter Cards

Choice	Manufacturer	Model #	Quantity	Type (check one)	
				Frame	Rack
1st	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>
2nd	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>

b. Does the CLEC wish Qwest to order carded splitter(s) to be installed by Qwest in a Common Area of the Central Office for the CLEC? (Yes/No)

Note: Qwest does not procure Splitters to be installed In-Site.

c. Does the CLEC wish to maintain their own Common Area Splitter cards (see requirements limitations below)? (Yes/No)

Note: CLECs opting to maintain their own Common Area Splitter cards shall comply with the following requirements/limitations:

- 1). Restricted to Common Area Splitters (CAS) associated with Central Office based on forms of Physical (Caged and Cageless) Collocation.
- 2). CLECs opting to maintain their own CAS cards must do so for all their splitters in all Qwest Central Offices across the 14 state region.
- 3). Qwest still installs and maintains the CAS shelf and associated cabling/terminations.
- 4). CLEC assumes full responsibility for the replacement, upgrading, installation, testing, and data basing of CAS cards.
- 5). CLECs must affix a label on each of the CAS shelves stating:  
"CLEC Maintained Splitter. (CLEC name) is responsible for Splitter Card Maintenance."
- 6). In addition to entering Yes above, the CLEC will work with the CPMC to coordinate the changes required to implement the maintenance of their CAS cards.

d. Splitter Synchronization Testing

- 1). Is synchronization testing required? (Yes/No)

Note: An answer of No will be assumed to mean that the response to the following two questions is Not Applicable (N/A); if Yes is filled in, the following two questions must be answered.

2). Technology Type (indicate the type of technology being deployed with the splitter)

Choice	CAP	DMT-G.DMT	DMT-G.Lite	DMT-T1.413
1st	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2nd	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3). Rate Limiting (RL) test setting (check one)

Choice	ON	OFF
1st	<input type="checkbox"/>	<input type="checkbox"/>
2nd	<input type="checkbox"/>	<input type="checkbox"/>

e. Notes Section

Note 1: Qwest installs all splitters, cabling, and cards (unless the CLEC opts to maintain their Common Area Splitter cards) located outside of a CLEC site, regardless if the CLEC furnishes the equipment or has Qwest procured it on their behalf.

Note 2: Qwest installs all splitters and associated cabling located within Virtual Collocation sites.

Note 3: For splitters placed within a Collocation site, the CLEC will need to double the number of pairs terminated on the ICDF to accommodate the Voice Only and Voice and Data circuits.

Note 4: The CLEC is responsible for the complete design of their Splitter facilities, e.g. ensuring that their Splitter and DSLAM equipment are compatible, regardless of who provided the Splitter.

Note 5: Failure to provide complete and detailed information may result in incorrect equipment being purchased and installed.

3. Cable Information

a. Cable Information

- 1). Does the CLEC wish to use (convert) existing ICDF to CLEC Site DS0 UNE cable to the Collocation site? (Yes/No)
- 2). If Yes entered above, enter cable name(s), pair count(s), and type(s) (from APOT)

of the cable to be reclassified, categorized by the intended Use of the cable.

Splitter Location	Name	Count	Type	Use
a). <b>Common Area</b> (see Note 1)				Data Only
				Data Only
b). <b>In-Site</b> (see Note 2)				Data Only
				Voice & Data
				Voice & Data
				Voice Only
				Voice Only

Note 1: **Common Area Splitters** require one CLEC cable pair per circuit to transport the Data Only signal from the Splitter to the CLEC site.

Note 2: **In-Site Splitters** require two CLEC cable pairs per circuit, one to transport a Voice and Data signal to the Splitter and a second to transport the Voice Only signal from the CLEC site.

- b. If Common Area is filled in above Enter splitter circuit cadence, e.g. skip every 25th pair, skip the last 4 of every 100 count, or indicate terminate all 100 pairs on the Qwest network block.

Note: All pairs for In-Site installations will be terminated, the CLEC can then spare out the appropriate pairs in their site to create the desired cadence.

4. Common Area Splitters can be ordered with other types of Collocation, e.g. Facility Connected Collocation and Adjacent Collocation. To place an order for Common Area Splitters to be used with those other types of Collocation, use their unique Applications.

**B. FINISHED SERVICES**

1. Signal Level (check one)

EICT (signal may require regeneration)  
 ITP (Signal is not necessarily regenerated by Qwest).

2. Desired Location of DMARC (check one)

Shared Distributing Frame (ICDF) outside of CLEC Site  
 CLEC Site (bay or cageless line-up)

3. If CLEC site DMARC location checked above, complete the following

- a. CLEC site DMARC to be placed in (check one)

Cage  
 Cageless Line-Up

- b. CLEC Cageless DMARC Location (enter all applicable data if Cageless Line-Up checked above):

- 1). Existing Cageless site:

	DS1	DS3
a). Relay Rack Number(s)	<input type="text"/>	<input type="text"/>
b). Panel Number(s)	<input type="text"/>	<input type="text"/>
c). Jack Termination(s)	<input type="text"/>	<input type="text"/>

- 2). New Cageless site (location of the DMARC bay and panel, e.g. first bay, second panel)

- c. DMARC provisioning

- 1). Does the CLEC wish Qwest to provide the DMARC panel(s)? (Yes/No)

- 2). If Yes is entered above enter the dimensions (in inches) of the bay in which the DMARC panel(s) will be installed. Width  Depth

Note: If Qwest provides the DMARC panel(s), it will determine the manufacturer and model to deploy, carding out only those jacks required to meet the Finished Services request.

- 3). If No is entered above (CLEC to provide the DMARC panel(s) in their site) please answer the following questions:

a). Manufacturer of DMARC Panel   
 b). Model Number of Panel

- c). Configuration of DMARC panel(s) (check all applicable)

DS1 Only  
 DS3 Only  
 DS1 and DS3 Combination Panel

- d). Quantity of panel(s) (enter all applicable quantities)

DS1 Only  
 DS3 Only



**DS1 and DS3 Combination Panel**

- d. Attach a detailed sketch of the requested CLEC Site DMARC installation including Cageless Site bay line-up(s) showing the panel(s) and jack(s) housing the DMARC terminations.
- e. Note: standard BNC connectors are to be used for all CLEC DS3 terminations when the DMARC is in the CLEC site.

**C. DIRECT CLEC TO CLEC CONNECTION**

- 1. CLEC to CLEC Central Office Locations (enter all applicable data)

CLEC Site 11 Character CLLIs	Cageless Relay Rack Number(s), e.g. 0123.45
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

- a. Originating CLEC Site
- b. Terminating CLEC site

- 2. Type of Connection required (check one)

- a. Two party (2 CLECs) connection
- b. One party (1 CLEC) with multiple forms of Collocation
- c. Non-contiguous bay connectivity

- 3. Cable size, type, and quantity to be used (enter all applicable data)

	Size	Type	Quantity
DS0	<input type="text"/>	<input type="text"/>	<input type="text"/>
DS1	<input type="text"/>	<input type="text"/>	<input type="text"/>
DS3	<input type="text"/>	<input type="text"/>	<input type="text"/>
Fiber	<input type="text"/>	<input type="text"/>	<input type="text"/>

- 4. When one or both of the Collocations is/are Virtual please indicate if Qwest or an approved vendor will be responsible for terminating the cable in the Virtual Collocation space (check one)

- a. Qwest to terminate cables
- b. Approved vendor to terminate cables

**D. VIRTUAL TO CAGELESS CONVERSION**

- 1. Existing Virtual Equipment identification (location and description) (enter all applicable data)

Floor	Relay Rack #	Panel	Description of Equipment
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

- 2. Prior to conversion, does the CLEC require an inspection of the equipment? (Yes/No)

**3. Notes Section**

- Note 1: A Virtual to Cageless Conversion can only take place once it is determined that:
  - a. The CLEC equipment is not co-mingled in a bay(s) with other CLEC and/or Qwest equipment.
  - b. Power feeds to the Virtual equipment comes from CLEC power panel equipment.
  - c. CLEC cabling to ICDF terminations exist.
- Note 2: If any of the conditions noted above are not met, a feasibility "no" condition exists. All work activity initiated by this application will be canceled.
- Note 3: When feasibility "no" conditions exist, a CLEC may place ICB (Individual Case Basis) order(s) to condition their site to accommodate a subsequent Virtual to Cageless Conversion.
- Note 4: Once a site is conditioned to accommodate a Virtual to Cageless Conversion, a subsequent application may be submitted.

**V. ENTRANCE FACILITIES**

- A. REQUESTED ENTRANCE FACILITY TYPE (check all applicable)

- 1. Orderable with this Application:

	1st Choice	2nd Choice (optional)
Express Fiber	<input type="checkbox"/>	<input type="checkbox"/>
Shared Cross Connect Fiber	<input type="checkbox"/>	<input type="checkbox"/> (see Note 7)
Standard Shared Fiber	<input type="checkbox"/>	<input type="checkbox"/> (see Note 7)
Copper Entrance (Minnesota Only)	<input type="checkbox"/>	<input type="checkbox"/> (see Note 5)
DS1 Leased Private Line	<input type="checkbox"/>	<input type="checkbox"/> (see Note 1)
DS3 Leased Private Line	<input type="checkbox"/>	<input type="checkbox"/> (see Note 1)
Unbundled Network Elements	<input type="checkbox"/>	<input type="checkbox"/>

- 2. Ordered outside this application (include detail here for design purposes):

	1st Choice	2nd Choice (optional)
Copper Entrance (All States but MN)	<input type="checkbox"/>	<input type="checkbox"/> (see Note 3)
Dark Fiber	<input type="checkbox"/>	<input type="checkbox"/> (see Notes 2 and 4)

Microwave  
Other

(see Note 6)  
(see Note 3)

### 3. Notes Section

- Note 1: Also complete the Finished Services section.
- Note 2: Requires a corresponding set of fiber terminations which can be ordered with this application.
- Note 3: Ordered as a BFR.
- Note 4: If Dark Fiber is requested, Dark Fiber Form must be completed. This form can be accessed at the following address: <http://www.qwest.com/wholesale/pcat/udf.html>
- Note 5: Copper Entrance can be ordered using this application for the State of Minnesota only, where it will be processed with ICB (Individual Case Bases) pricing and intervals.
- Note 6: If Microwave Entrance Facility type is requested, the Microwave Entrance Facility - Site Visit Order Form must be completed. This form can be accessed at the following address: <http://www.qwest.com/wholesale/pcat/collocation.html>
- Note 7: Pre-provisioned along with this product will be corresponding fiber legs extending from the CLEC site to a Fiber Distribution Panel.

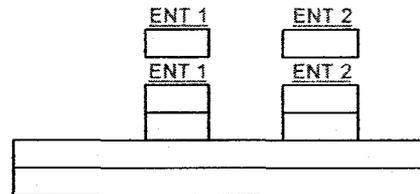
### B. DUAL ENTRANCE

1. Is Diverse Dual Entrance Requested? (Yes/No)
2. If Diverse Dual Entrance is not available for Shared Fiber, does the CLEC require the number of fibers spliced into the available entrance be doubled? (Yes/No)
3. If Diverse Dual Entrance is not available for Express Fiber, will the CLEC double the size of the cable provided? (Yes/No)
4. If Diverse Dual Entrance is not available for Express Fiber, will the CLEC double the number of Express fiber cables provided? (Yes/No)
5. Note Section

Note 1: When a Qwest Dual Entrance is available, the diversity exists outside of the central office. The route within the central office will eventually become one route within the same rack going to your collocation site.

### C. EXPRESS FIBER (enter all applicable data)

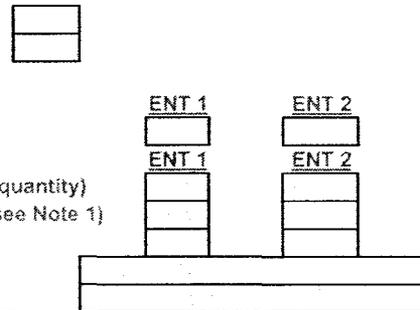
1. Number of Fiber cables to be placed per entrance (ENT) to Qwest.
2. CLEC Fiber Information:
  - a. Number of fibers in each CLEC cable
  - b. Diameter of CLEC cables (enter dimension in inches)
  - c. CLEC Cable manufacturer
  - d. Type of CLEC fiber (enter SOCC Code)
3. Notes Section



- Note 1: Express Fiber is defined as CLEC provided outside plant, fire rated transitional fiber passing through a POI and Central Office facilities to a CLEC site.
- Note 2: Additional information on Express Fiber requirements can be found in Qwest Tech Pub 77386.

### D. SHARED FIBER

1. Type of Shared Fiber is being requested (check one)
  - a. Cross Connect Fiber Entrance Facilities (see Note 2)
  - b. Standard Fiber Entrance Facilities (see Note 3)
2. Shared Fiber Configuration Information
  - a. Number of fibers to be spliced per entrance into Qwest shared facilities at POI(s) (enter quantity. see Note 1)
  - b. CLEC Fiber Information
    - 1). Number of CLEC fiber cables placed to the POI (enter quantity)
    - 2). Number of fibers in each CLEC cable (enter quantity, see Note 1)
    - 3). Diameter of CLEC cables (enter dimension in inches)
    - 4). CLEC Cable manufacturer (enter name)
    - 5). Type of CLEC fiber (enter SOCC Code)
  - c. Loss of Decibels per Kilometer (enter quantity)
3. Shared Fiber Entrance Utilization
  - a. Utilize existing fiber entrance? (Yes/No)
  - b. If Yes is checked above, provide the following Outside Plant fiber information (enter cable name and count, e.g. LG11, 1-12, for each applicable)



- Entrance 1  
Entrance 2 (if dual entrance is requested)

### 4. Notes Section

- Note 1: Shared Fiber cable must have a minimum of 12 strands of fiber (6 circuits).
- Note 2: Cross Connect Fiber Entrance Facilities interconnects two sets of fiber in the Central Office (CLEC site to Qwest Outside Plant fiber from the POI) each terminating at different fiber distribution panel ports.
- Note 3: Standard Fiber Entrance Facilities interconnects two sets of fiber in the Central Office (CLEC site to Qwest Outside Plant fiber from the POI) each respective set terminating at the same fiber distribution

frame, panel, and port.

**VI. NOTES**


**THANK YOU FOR YOUR APPLICATION**

