

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

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McLEODUSA TELECOMMUNICATONS SERVICES, INC.,)	Docket No. UT- 063013
)	
Petitioner,)	
)	
v.)	
)	
QWEST CORPORATION,)	
)	
Respondent.)	
)	

**RESPONSE TESTIMONY
OF
CURTIS ASHTON
ON BEHALF OF
QWEST COMMUNICATIONS**

June 14, 2006

1 **I. IDENTIFICATION OF WITNESS**

2 **Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND POSITION**
3 **WITH QWEST CORPORATION.**

4 A. My name is Curtis Ashton. I am employed by Qwest Corporation (“Qwest”) as a
5 senior staff technical support power maintenance engineer in the technical support
6 group, local network organization. My business address is 700 W. Mineral,
7 Littleton, Colorado, 80120.

8
9 **Q. PLEASE REVIEW YOUR WORK EXPERIENCE AND PRESENT**
10 **RESPONSIBILITIES.**

11 A. I hold a Bachelor of Science in electrical engineering, summa cum laude from
12 Arizona State University. I have been responsible for managing
13 telecommunications power for Qwest and its predecessors since 1992. All of the
14 positions I've held with Qwest Communications (formerly U S West
15 Communications), including my current position, have dealt with power
16 management. In my current position, I am the subject matter expert ("SME") for
17 all powering and grounding issues for Qwest’s Local Network organization in the
18 Power Engineering department. I have worked with power issues as they relate to
19 collocation since the original FCC collocation order in 1992. In addition, I have
20 presented papers at multiple conferences and have been published in conference
21 proceedings and trade magazines. Among the presentations are two on
22 collocation powering. I am also a vice-chair of several sub-committees of the
23 institute of electrical and electronics engineers (IEEE) stationary battery standards
24 coordinating committee (SCC) 29. In the past I served a term on the general
25 IEEE standards review committee (revcom).

1 which that rate was developed, it should have participated in that cost setting
2 proceeding.

3

4 **Q. IN THE DIRECT TESTIMONY OF BOTH MR. MORRISON AND MR.**
5 **STARKEY DO THEY PORTRAY AN ACCURATE PICTURE OF THIS**
6 **PROCEEDING?**

7 A. No. Both of these gentlemen have glossed over the real issue and have provided
8 quite a bit of testimony that clouds the real reason that we are before this
9 Commission. The real reason that we are here is to discuss the language in the
10 Power Measuring Amendment. Mr. Morrison and Mr. Starkey seem to want to
11 focus on their view of how Qwest should or does actually incur cost with respect
12 to DC power plant. Setting aside the errors Mr. Morrison and Mr. Starkey make
13 with regard to Qwest's power plant planning and the costs Qwest incurs, this
14 "actual cost" methodology is both irrelevant to the contract dispute, and
15 inconsistent with TELRIC methodology. This Commission has already ruled that
16 Qwest may charge for the power plant based on a forward looking, least cost
17 TRILIC methodology, based on the number of amps the CLEC specified in its
18 order for power distribution. Furthermore, as described in the testimony of Mr.
19 Easton, nothing in the DC Power Measuring Amendment changes the pricing
20 structure for the Power Plant rate element.

21

22 **Q. IF THAT IS THE CASE, WHAT TOPICS WILL YOU ADDRESS IN**
23 **YOUR TESTIMONY?**

24 A. I will address some of the incorrect statements by Mr. Morrison and Mr. Starkey
25 in regard to how Qwest designs and engineers power so that the record in this

1 case be clear on those issues, even though Qwest does not believe that the
2 engineering issues are the appropriate focus of this contract dispute case.

3

4 **Q. HOW DO QWEST ENGINEERS DESIGN A POWER PLANT WITHIN A**
5 **QWEST CENTRAL OFFICE?**

6 A. Qwest Engineers take the total requirement of power needs into consideration
7 when designing the power plant for a central office. What I mean by this is that
8 the engineer factors in not only the power requirements of Qwest equipment, but
9 also collocators (CLECs) within that central office. For example, when a CLEC
10 provides Qwest with an order for power feed (sometimes referred to as power
11 distribution or power cables), Qwest assumes that the order is based on List 2
12 Drain – the current the equipment will draw under the most power demanding
13 conditions, such as initial power-up after a power failure. Mr. Morrison believes
14 that Qwest designs a Central Office based on List 1 drain – the current the
15 equipment will draw when operating normally at maximum capacity – and that is
16 correct for Qwest equipment. However, the reality of designing for CLEC needs
17 is that Qwest does not know, and cannot reasonably forecast, the draw that CLEC
18 equipment will take, so Qwest uses the ordered amount to size the power plant
19 capacity made available to CLECs.

20

21 Mr. Morrison recognizes this reality. In his direct testimony at lines 242 – 251, he
22 explains how two identical pieces of equipment, serving the same number of
23 customers, could have very different power requirements. I am not a lawyer, and
24 do not understand all of the legal obligations Qwest has to treat CLECs like
25 McLeod in a nondiscriminatory manner – but from an engineering perspective,

1 Qwest plans its DC power plant capacity so that if a CLEC orders a certain
2 amount of power capacity in its power feeds, that amount of power capacity is
3 made available to them in the power plant. My experience working with various
4 CLECs tells me many CLECs expect Qwest to provide power plant capacity at
5 that level.

6

7 **Q. DOESN'T MCLEOD TELL QWEST WHAT ITS ANTICIPATED USAGE**
8 **WILL BE WHEN IT PLACES AN ORDER?**

9 A. No, McLeod does not. Indeed, based on Mr. Morrison's testimony, McLeod is
10 likely unable to do so. And, since McLeod cannot forecast its own usage, Qwest,
11 who has less information about McLeod's business plans, certainly cannot do so
12 either. Under those circumstances, the only reasonable amperage to include in
13 power plant planning for CLECs is the ordered amount, as that is the amount that
14 the CLEC has said, via its order that it might at some point need.

15

16 **Q. UNDER WHAT CIRCUMSTANCES WOULD THE CLEC NEED OR USE**
17 **THE ORDERED AMOUNT OF POWER?**

18 A. A good example of a situation in which the ordered amount of power could be
19 required would be if Qwest had a complete power failure within a central office,
20 and the batteries fully discharged. During power outages, the power to the
21 telecommunication equipment is supplied by batteries. For a time, a diesel engine
22 would be supplying additional backup power for the batteries. If the engine
23 cannot be refueled, the batteries would become the sole source of power. Once
24 the power backup plant is running solely off battery power, the batteries begin to
25 discharge. Once the batteries are no longer sufficient to power the equipment, the

1 equipment would shut down. After power is restored, CLEC and Qwest
2 equipment would draw significantly more power than a List 1 drain situation,
3 approaching or reaching List 2 drain, as the equipment is restarted. This is
4 sometimes referred to as a “List 2 Event.” Qwest designs the power plant so that
5 in such an event, CLEC and toll equipment within the central office will have the
6 List 2 drain available to them, ahead of even Qwest’s own switch.¹

7
8 A central office power plant is sized on the total requirement of every piece of
9 equipment that has a power drain. Indeed, under the List 2 drain situation
10 described above, each and every piece of McLeod’s equipment in the central
11 office would have List 2 drain power capacity available to it.

12
13 **Q. MCLEOD HAS ASSERTED THAT QWEST’S DESCRIPTION OF A LIST**
14 **2 EVENT SHOW THAT SUCH AN EVENT IS RARE AND UNLIKELY**
15 **[MORRISON TESTIMONY PAGE 42, LINES 973 – 975]. DOES THIS**
16 **MEAN THAT QWEST SHOULD NOT PLAN FOR A LIST 2 DRAIN IN**
17 **ENGINEERING ITS POWER PLANT?**

18 **A.** No. While rare, List 2 events do occur, and it is proper for Qwest to plan for such
19 an event in designing and engineering its power plant, particularly when dealing
20 with the obligations Qwest has to deliver power plant capacity at the amounts
21 CLECs indicate in their orders for power feeds.

22
23 **Q. WHAT POWER PLANT CAPACITY HAS MCLEOD ORDERED FROM**

¹ The engineering characteristics of Qwest’s switches require that they be restored in stages after a battery discharge event described above. Thus, the List 2 draw for these switches is not experienced at one time – but not as a result of the availability of power plant capacity or the switches’ need for power.

1 **QWEST?**

2 A. Confidential Exhibit CA-1 shows the initial power orders that McLeod submitted
3 in Washington. Qwest has taken these requests and combined the McLeod and
4 other CLEC power orders along with the equipment demand that Qwest has and
5 sizes the power plant to accommodate all power requirements.

6

7 **Q. CAN YOU PROVIDE THE ACTUAL POWER USAGE THAT MCLEOD**
8 **HAS TODAY AND IS BEING BILLED FOR?**

9 A. Yes. That information is also shown on Confidential Exhibit CA-1. That Exhibit
10 shows the two most recent usage measurements for each central office in which
11 McLeod is collocated. These measurements are taken at approximate six month
12 intervals.

13

14 **Q. PLEASE DESCRIBE THE CORRELATION BETWEEN ORDERED**
15 **AMOUNTS AND THE ACTUAL USAGE?**

16 A. Actually there is no correlation, and that is a critical point. The ordered amount
17 of power capacity Qwest makes available to CLECs bears no relationship to the
18 amount of power usage, thus supporting Qwest's contention that the only prudent
19 course of action at the time the order is placed is to engineer power plant in
20 accordance with the ordered amounts of power capacity. As noted above, this is
21 also the amount of power plant capacity that Qwest makes available for McLeod's
22 use.

23

24 **Q. MR. MORRISON, ON PAGE 24 LINES 511 – 520 STATES THAT A**
25 **COLLOCATOR ORDERS THE POWER THAT IT ULTIMATELY WILL**

1 **NEED BUT NOT THE AMOUNT IT WILL NEED IMMEDIATELY.**
2 **PLEASE COMMENT ON THIS REMARK.**

3
4 A. This may be true for some collocators like McLeod, but not necessarily all
5 collocators. Regardless, for purposes of Qwest's engineering practices, it is
6 irrelevant. This is because Qwest has no idea of any particular CLEC's business
7 plan – for example, whether that CLEC has ordered power capacity based on its
8 ultimate need or a shorter planning horizon, or when the CLEC expects to have
9 fully carded bays and customers. Qwest fulfills the power requirements that
10 McLeod provides to Qwest in its order. If McLeod submits an order under the
11 interconnection agreement for 180 amps of power, then Qwest will reasonably use
12 and rely upon that order to design the power plant and make certain that the
13 ordered amount of power is available to McLeod.

14
15 **Q. MR. MORRISON TALKS ABOUT “AS ORDERED” VS “AS**
16 **CONSUMED” POWER IN ITS COMPLAINT. WHAT IS THE**
17 **DIFFERENCE BETWEEN THE TWO?**

18 A. The “as ordered” is the total requirement that McLeod has asked Qwest to be able
19 to provide and Qwest has sized its power plant to accommodate that ordered
20 amount. This power plant is billed at a constant according to the amount of amps
21 specified in McLeod's initial order for power distribution. As Mr. Morrison
22 describes it, the “as consumed” rate is the measured rate for actual power that
23 traverses the power cables that feed the McLeod collocation site. This is a
24 separately billed rate.

25

1 **Q. MCLEOD TALKS ABOUT WANTING TO PAY FOR POWER PLANT ON**
2 **AN “AS CONSUMED” OR “MEASURED” BASIS. IS POWER PLANT**
3 **“CONSUMED” IN THE SAME WAY THAT POWER ITSELF IS**
4 **CONSUMED?**

5 A. No, of course not. First, it is important to observe that power plant is not
6 “consumed.” Power plant consists of several durable pieces of equipment that
7 last for years. As Mr. Morrison states, power plant capacity is shared among the
8 several users of power in a central office, but power plant capacity is not
9 consumed. A better way to describe power plant capacity is in terms of
10 availability, rather than consumption. For any particular power user, the question
11 is whether there is sufficient capacity in the power plant available to convert and
12 deliver the electric current its telecommunications equipment will eventually
13 consume. That is a completely different question than how much electric current
14 the telecommunications equipment will consume.

15
16 Secondly, power plant is a fixed investment, and the costs of that plant do not
17 vary with usage. The amount of power that McLeod may consume at the point in
18 time that any particular power measurement is taken may not bear any
19 relationship to the amount of power plant capacity that McLeod has ordered or
20 that Qwest makes available to McLeod. Third, while electric power usage (in
21 Amps or Watts) is measured (and charged accordingly under the DC Power
22 Measuring Amendment), the “measurement” of DC power plant capacity does not
23 change until there are additions of primary components (e.g., batteries, rectifiers,
24 etc.) that make additional power plant capacity available to power users. In other
25 words, Power Plant is not amenable to “measurement”.

1 **Q. MR. MORRISON CLAIMS ON PAGES 27 & 28 LINES 594 TO 605 THAT**
2 **A POWER PLANT IS SIZED ON AN “AS CONSUMED” BASIS. IS MR.**
3 **MORRISON CORRECT IN HIS UNDERSTANDING?**

4 A. No. The reality is that power plant is sized based on the amount of power that
5 Qwest, McLeod and other CLECs forecast/order. When McLeod placed the
6 orders for power shown on Confidential CA-1, in the 1999-2000 timeframe, there
7 was no McLeod usage to take into account, nor could McLeod forecast any usage.
8 Thus, power plants to meet the CLEC orders must be based on the ordered
9 amount.

10

11 **Q. MCLEOD HAS CLAIMED THAT QWEST’S ENGINEERING OF POWER**
12 **PLANT BASED ON THE CLECS’ POWER ORDERS VIOLATES**
13 **QWEST’S OWN TECHNICAL PUBLICATIONS AND ENGINEERING**
14 **GUIDELINES. CAN YOU PLEASE RESPOND?**

15 A. As McLeod has admitted in discovery, no Qwest technical publication or
16 engineering guideline specifically addresses engineering or planning power plant
17 capacity in response to CLEC orders, usage, or demand. There are several legal
18 and regulatory reasons Qwest makes power plant capacity available to CLECs
19 based on their power orders that supplement and modify the engineering
20 requirements for Qwest’s own equipment, and though I am not a lawyer, I have
21 some basic understanding of some of these obligations. For example, I
22 understand that in Washington, the Commission approved a rate for DC Power
23 Plant, to be charged based on the number of amps in a CLEC’s power feed order.
24 Qwest interprets the ordered rate amount and rate design to require Qwest to
25 make the ordered amount of amps in power plant capacity available to CLECs as

1 needed. Qwest plans its power plant capacity accordingly. Another reason Qwest
2 must be proactive in planning power plant capacity are the limited timeframes
3 Qwest has to respond to collocation orders under applicable law.
4

5 **Q. MR. MORRISON INTIMATES ON PAGES 39 & 40, LINES 903 TO 916,**
6 **THAT THE 90 DAYS QWEST HAS (BY LAW) TO PROVISION A**
7 **COLLOCATION IS MORE THAN SUFFICIENT TIME TO GROW A**
8 **POWER PLANT. IS THIS TRUE?**

9 A. No. Although in some cases, it may be enough time, Qwest must pre-plan power
10 plant growth many months to years ahead of time in order to meet our legal
11 obligation to have capacity available to the CLECs upon turnup of their
12 collocation presence. As I've explained elsewhere in this testimony, since Qwest
13 does not know when the CLEC will require its full requested amount of power
14 drain, that full amount must be available as of day 90 after their collocation order
15 is placed. Qwest has held this point of view since even before McLeodUSA
16 placed its collocation orders in the 1999-2000 timeframe. For example, in 1998,
17 at the International Telecommunications Energy Conference (Intelec '98) of the
18 Institute of Electrical and Electronics Engineers (IEEE) Power Electronics
19 Society (PELS), I presented a paper on Collocation issues (see attached Exhibit
20 CA_2.pdf). In this presentation (which has been provided to McLeod in this
21 proceeding in response to a Discovery Request), on slide 9, I described typical
22 engineering, installation, and acceptance intervals to add various primary backup
23 power components. Many of these components take much longer than 90 days
24 from beginning of engineering order to test and acceptance. In addition, it is
25 economically unwise for Qwest to constantly be opening new power plant jobs

1 every 3-6 months for growth. A more prudent engineering planning interval
2 would be 18-36 months, and this is what Qwest has been attempting to do since at
3 least 1998.

4
5 **Q. ON PAGE 28 MR. MORRISON TALKS ABOUT LIST 1 AND LIST 2**
6 **DRAINS. ARE HIS ASSUMPTIONS CORRECT?**

7 A. Most of his assumptions are correct. However, Mr. Morrison asserts that List 1
8 drain corresponds with the “as consumed” capacity. This is incorrect. In general,
9 actual consumption will fall below List 1 drain, sometimes far below that level.
10 Mr. Morrison acknowledged this earlier in his testimony, at pages 19, lines 399 –
11 402, where he states that List 1 drain is the amperage when the equipment is
12 operating normally at maximum capacity. Since the equipment will only rarely
13 operate at maximum capacity, any suggestion that charging for power plant on a
14 measured, or “as consumed” basis would be equivalent to charging for List 1
15 drain is clearly incorrect.

16
17 **Q. MR. MORRISON, AT PAGES 39-40 LINES 886-921 STATES THAT**
18 **QWEST DOES NOT NEED TO ENGINEER TO THE AS-ORDERED**
19 **LEVEL BECAUSE MCLEOD PROVIDES QWEST WITH A GREAT**
20 **DEAL OF INFORMATION ABOUT THE COLLOCATED EQUIPMENT**
21 **AND THE POWER DRAWS SO THAT QWEST SHOULD BE WELL**
22 **AWARE OF MCLEOD’S POWER USAGE. COULD YOU PLEASE**
23 **COMMENT ON THAT?**

24 A. Mr. Morrison’s testimony suggests that McLeod provides a great deal of
25 information to Qwest. However, a careful reading shows that McLeod does not.

1 Items (1) – (5) at lines 895 – 898 are really no more than a description of the
2 equipment that McLeod will collocate. In Qwest’s experience with McLeod,
3 some of this equipment is equipment that Qwest is not familiar with.

4 Additionally, the testimony is more significant in what it does not list – it does not
5 state that McLeod will provide a forecast of usage or growth. Nor does McLeod
6 either provide Qwest with the List 1 drain of its equipment or claim that any
7 particular power capacity level is all they require to be available. Rather, Mr.
8 Morrison apparently expects Qwest to unilaterally calculate or project such a
9 number, when McLeod itself cannot do so. Indeed, earlier in this same testimony
10 (page 10), Mr. Morrison made a point of explaining how two otherwise identical
11 pieces of equipment could have very different power needs. Furthermore, any
12 review of Confidential CA-1 shows that the ordered amounts and the consumed
13 amounts do not have any discernable correlation.

14
15 **Q. ON PAGE 43 LINES 984 TO 1013, MR. MORRISON STATES THAT IN**
16 **IOWA, QWEST CLAIMED THAT IF MCLEOD ORDERED 175 AMPS OF**
17 **CAPACITY, QWEST WOULD DEFINITELY AUGMENT ITS DC**
18 **POWER PLANT CAPACITY. WOULD YOU PLEASE COMMENT ON**
19 **THIS STATEMENT?**

20 **A.** Yes. It is my understanding that what the Qwest witness, Mr. Hubbard, meant by
21 that statement is that the larger the order, the closer or more likely Qwest would
22 be to augment its power plant. However, the more important point here is that
23 any CLEC order for power entitles Qwest to charge its Commission-approved
24 TELRIC rates. My understanding of these rates is that they do not necessarily
25 relate to Qwest’s real world experience, and that Qwest is not required to

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

3

4 **Q. ON PAGES 44 TO 46 LINES 998 TO 1063 MR. MORRISON DISCUSSES**
5 **DECOMMISSIONING OF COLLOCATION SITES AND WHETHER**
6 **QWEST REMOVES POWER PLANT EQUIPMENT. WILL YOU**
7 **COMMENT ON THIS TESTIMONY?**

8 A. Yes. Once again Mr. Morrison is confused on this issue. Mr. Morrison is correct,
9 as reflected in Qwest data response, (McLeod data request #5), that Qwest does
10 not remove or reduce its Power Plant Capacity based on decommissioned
11 collocations. McLeod's orders for power were in the 1999-2000 time frame when
12 collocation was going strong and Qwest had a lot of requests for power. Since
13 that time, Qwest has experienced a reduction in the number of operating
14 collocators, thus, a reduction in the amount of drain on an existing power plant.
15 However, these events that occurred after McLeod placed its power orders do not
16 impact in any way the amount of power that McLeod has ordered, Qwest's
17 obligation to have sufficient capacity to meet that order at the time of that order,
18 or McLeod's obligation to pay for that ordered amount.

19

20 **Q. IS THERE A WAY THAT MCLEOD CAN REDUCE THEIR POWER**
21 **PLANT CHARGES?**

22 A. Yes. McLeod has the ability to restructure their power requirement as addressed
23 by Mr. Bill Easton through the Power Reduction offering and the Power
24 Reduction with Reservation product offered by Qwest. McLeod has the option to
25 reduce their power requirement through a change to their original order; however,

1 McLeod has not taken advantage of that option. McLeod seems to want to have
2 the originally ordered amount of power still available to them but to reduce their
3 Power Plant charges so that they pay for much less capacity than is available to
4 them. McLeod's desire to only pay for what they use is in fact accomplished
5 through the Power Measuring Amendment, which reduces the Power Usage
6 charge to the measured amount. In fact, in Discovery in this proceeding, McLeod
7 admitted that its own Collocation policy is similar to what the Qwest Power
8 Reduction product offers. McLeod assumed a theoretical 20 Amp CLEC usage,
9 and stated that they would fuse it at 30 Amps, charge the DC plant cost at 20
10 Amps, but size the cables at approximately 60 Amps. Qwest's power planning
11 process works the same way. If the original McLeod order were for 60 Amps but
12 the usage at 20 Amps, Qwest would fuse it at 80 Amps, charge the power plant
13 rate at 60 Amps (in keeping with the commission-ordered rates), and the usage
14 rate at 20 Amps. If McLeod then requested a power reduction to 20 Amps, Qwest
15 would then re-fuse McLeod at approximately 30 Amps, and charge for both usage
16 and power plant at 20 Amps. It doesn't seem credible to me that McLeod claims
17 they would do this for their own collocators, but at the same time claim that
18 Qwest's power reduction options are unsuitable.

19
20 **Q. MR. MORRISON, ON PAGES 46 TO 50, DISCUSSES TYPICAL**
21 **MCLEOD EQUIPMENT AND THE POWER DRAIN ASSOCIATED**
22 **WITH THAT EQUIPMENT. DOES QWEST HAVE KNOWLEDGE OF**
23 **THE TABLE IN FIGURE 6 AND MCLEOD'S ESTIMATED DC POWER**
24 **DRAW?**

1 A. This confidential chart must be internal to McLeod, because it has not been
2 provided to Qwest except in connection with this litigation. As stated by Mr.
3 Morrison, line 1081, the “DC power amperage is based on actual power readings
4 made by McLeodUSA.” Because this information was not provided to Qwest
5 during the timeframe when McLeod ordered power from Qwest (primarily the
6 1999-2001 timeframe), Qwest could not use it or rely on it to engineer its power
7 plant facilities. When McLeod first ordered power from Qwest, McLeod did not
8 even have equipment in their collocation sites to take readings on. Therefore
9 Qwest had to assume that McLeod was ordering power based on their assumption
10 that McLeod was going to serve a lot of customers and have a high degree of
11 utilization of their equipment. This has not proven to be a correct assumption, but
12 as discussed, McLeod has options available to order a lesser amount of power
13 plant capacity. But, McLeod has not taken advantage of these offerings.

14
15 Perhaps more importantly, however, it appears as though McLeod’s orders for
16 100 or more amps per central office would be significantly oversized if Figure 6
17 actually represents a typical McLeod collocation design, as indicated by Mr.
18 Morrison.

19
20 **Q. ON PAGES 53 AND 54 MR. MORRISON DISCUSSES THE ISSUE OF**
21 **STRANDED INVESTMENT, AND CLAIMS THAT AN ILEC WOULD**
22 **NOT INVEST IN ITS DC POWER PLANT BASED ON MCLEOD OR ANY**
23 **OTHER CLEC’S ORDER. IS THIS CORRECT?**

1 A. No it is not. Qwest has an obligation and a requirement to build or invest in
2 infrastructure to make available the required or ordered amount of power that
3 McLeod and every other CLEC has ordered
4

5 **Q. MCLEOD MAKES CERTAIN CLAIMS AND ASSUMPTIONS ABOUT**
6 **THE COST STUDY ON THE BASIS OF THE FACT THAT THE COST**
7 **STUDY ASSUMES 1200 AMPS OF RECTIFIER CAPACITY FOR A 1000**
8 **AMP CAPACITY PLANT. CAN YOU PLEASE COMMENT?**

9 A. Yes. Mr. Starkey is wrong when he claims that that Qwest's cost study assumes
10 1000 amps of usage on a 1200 amp capacity plant. Ms. Million describes how
11 Qwest's cost study modeled the power plant capacity costs on a "per amp" basis
12 and how the study makes no assumption about usage. Mr. Starkey's claim is
13 based on his failure to understand the engineering inputs for a 1000 amp capacity
14 plant. However, in the Utah hearings, McLeod's own witness, Mr. Morrison,
15 affirmed that the engineering standard requires n+1 rectifier, as well as a 20%
16 recharge capacity. Thus, for a 1000 amp capacity plant, according to McLeod's
17 testimony, Qwest should calculate costs to include six or even seven 200 amp
18 rectifiers. The use of 1200 amps of rectifiers is necessary for a 1000 amp capacity
19 power plant, and does not mean that Qwest has used a "fill factor" or has
20 otherwise assumed any particular loading or usage on that plant.
21

22 **Q. ARE THE OTHER COMPONENTS OF THE POWER PLANT IN THE**
23 **COST STUDY, SUCH AS BATTERIES, SIZED FOR A 1200 AMP**
24 **CAPACITY PLANT?**

1 A. No, they are not. The batteries modeled in the study are the appropriate size for a
2 power plant with 1000 amps of capacity, not 1200. A 1200 amp capacity plant
3 would require more batteries, as well as additional rectifiers to meet the
4 engineering standards discussed above.

5

6 **Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

7 A. Power plants are sized and built according to Qwest and CLEC demand. In other
8 words, every element that is placed in a central office that draws power is taken
9 into account and the power plant is sized for the peak demand. If McLeod
10 ordered 100 amps, then Qwest will make sure McLeod has 100 amps of power
11 plant capacity available to it. Once built, the power plant is not necessarily
12 resized simply because demand decreases – Qwest does not reduce the ultimate
13 capacity for McLeod just because they are not using the full 100 amps. On a
14 usage basis, Qwest is only charging McLeod for measured usage at its collocation
15 sites. Because McLeod ordered 100 amps of capacity, Qwest must still maintain
16 the ability to provide McLeod with the 100 amps it ordered if necessary, and the
17 “Power Plant” rate element is accordingly not prorated.

18

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

20 A. Yes it does.

21