

JOINT COMPLAINANTS

EXHIBIT 6

PUCT Docket No. 21333

**Direct Testimony of Steven E. Turner
on Behalf of
AT&T/WCOM**

Excerpts

Testimony – pp. 27-30

Attachment SET-4 – Collocation Cost

Model White Paper – pp. 44-46

AT&T COMMUNICATIONS OF TEXAS, L.P.
AND MCIW WORLDCOM, INC.

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PUBLIC UTILITY COMMISSION
FILING CLERK

PROJECT NO. 21333

PROCEEDING TO ESTABLISH	§	PUBLIC UTILITY COMMISSION
PERMANENT RATES FOR	§	
SOUTHWESTERN BELL TELEPHONE	§	OF TEXAS
COMPANY'S REVISED PHYSICAL AND	§	
VIRTUAL COLLOCATION TARIFFS	§	

DIRECT TESTIMONY OF STEVEN E. TURNER
ON BEHALF OF
AT&T COMMUNICATIONS OF TEXAS, L.P.
AND MCIW WORLDCOM, INC.

TABLE OF CONTENTS

	<u>Page</u>
Table of Contents	1
Letter of Explanation	2
Direct Testimony of Steven E. Turner	3-88
 <u>Addendum</u>	
Attachment SET-1 (non-native)	90-93
Attachment SET-2 (non-native)	94-99
Attachment SET-3 (non-native)	100-107
Attachment SET-4 (non-native)	108-228

Date Filed:
April 26, 2000



1 that would be required to construct the collocation as compared to the amount of
2 collocation space that would be provided. The Model Collocation Layout reflects the
3 most efficient layout that also uses the minimum amount of space within the central
4 office.

5 SWBT has witnessed an illustration of this conclusion at a workshop in
6 California, where I temporarily modified the Collocation Cost Model to permit the
7 variation of the number of collocation cages from one up to any number. Varying the
8 number of collocation cages down to one showed that the investment per cage actually
9 doubles (on a per cage basis) as compared to constructing four cages at a time. At that
10 time, I also demonstrated that building five cages at a time did not materially affect the
11 investment per cage. However, a five-cage build-out layout assumption is not as efficient
12 a use of space as the four cages. While SWBT may argue that a different number of
13 cages should be used, this exercise illustrates the importance of the design assumptions in
14 determining the cost for collocation.

15 2. Use Of Model Layouts To Calculate Investments For Physical
16 Collocation

17 Q. HAVING CONSTRUCTED THE MODEL CENTRAL OFFICE AND
18 COLLOCATION SPACE LAYOUTS, WHAT WERE THE INVESTMENT
19 COMPONENTS YOU ESTIMATED FOR PHYSICAL COLLOCATION?

20 A. We estimated investments associated with the following:

- 21 • overhead common systems infrastructure (cable racks, cable, etc.);
- 22 • power delivery, including backup capability;
- 23 • power consumption;
- 24 • equipment grounding;

- 1 • entrance fiber (bringing the CLEC's fiber from the manhole to the collocation
2 space);¹³
- 3 • copper connectivity between the collocation space and the cross-connects at the
4 voice grade level;
- 5 • copper connectivity between the collocation space and the cross-connects at the
6 DS-1 level (estimated separately using DSX and DCS technology);
- 7 • copper connectivity between the collocation space and the cross-connects at the
8 DS-3 level (estimated separately using DSX and DCS technology);
- 9 • construction elements associated with building the cage and maintaining the
10 environment in the cage (partitioning, floor covering, electrical distribution panel,
11 HVAC, lighting);
- 12 • land and building;
- 13 • manpower resources to plan both the entire 550 square foot collocation area and
14 each collocation request within that area; and
- 15 • security.

16 Q. HOW DID YOU ESTIMATE THESE INVESTMENT COMPONENTS?

17 A. The general methodology used was as follows:

- 18 • Identify, end-to-end, all the specific elements needed to provide the components.
19 See, for example, Figure 6 depicting the end-to-end requirements for power

¹³ The incumbent LEC must allow the CLEC to perform this function for itself, in which case the incumbent LEC's portion of this investment would be limited to costs associated with providing the rack upon which the cable resides.

1 delivery. Similar charts are provided in the White Paper for each investment
2 component.

- 3 • Obtain quotes (in hours or dollars, as appropriate) for the engineering, furnishing,
4 and installing these elements.
- 5 • The subject matter experts, using their experience and knowledge, evaluated this
6 information and selected input values for the Collocation Cost Model to calculate
7 the investment costs.

Figure 6 - Collocation Cost Model - 48v DC Power Delivery

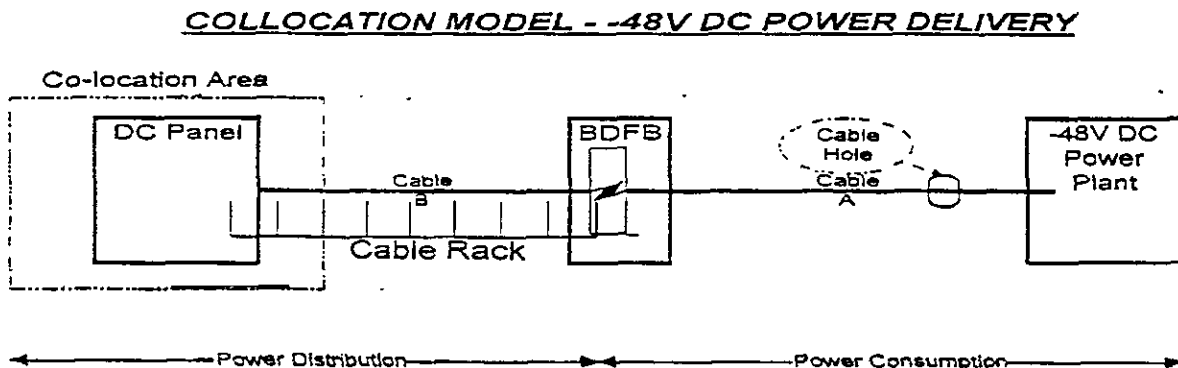


Table 1 - Power Delivery Elements

Power Delivery Elements (-48V DC Option)				
Element	Description	Provider	Quantity	Remarks
-48V DC Power Panel	Located in Cage	CLEC	-	CLEC installs -48V DC panels in cage and terminates incumbent provided feed
Cable 'B'	4 x #6 Cable between Cage & Collocation BDFB	Incumbent	35'-0"	One time charge for 40 Amps (20 Amp A & B feeds + return) as requested by CLEC - Includes 20'-0" drop in cage
Cable 'B'	4 x #2 Cable between Cage & Collocation BDFB	Incumbent	35'-0"	One time charge for 100 Amps (50 Amps A & B feeds + return) as requested by CLEC - Includes 20'-0" drop in cage
Cable 'B'	4 x 2/0 Cable between Cage & Collocation BDFB	Incumbent	35'-0"	One time charge for 200 Amps (100 Amps A & B feeds + return) as requested by CLEC - Includes 20'-0" drop in cage
Cable Rack	15" CLEC specific	Incumbent	5'-0"	Included in cage investment
BDFB	Located close to Collocation Cages	Incumbent	-	Included in -48V DC Power Consumption Charge
Cable Rack Occupancy	Shared support for Cable 'A' below	Incumbent	-	Included in -48V DC Power Consumption Charge
Cable 'A'	Cable between -48V Power Plant & BDFB	Incumbent	-	Included in -48V DC Power Consumption Charge
-48V DC Power Plant	Shared use between CLEC's & incumbent	Incumbent	-	Included in -48V DC Power Consumption Charge
Auto-start Diesel Fuel Tanks, etc.	Required for Battery Back-up	Incumbent	-	Included in -48V DC Power Consumption Charge
AC Energy	Required for AC Energy used	Incumbent	-	Included in -48V DC Power Consumption Charge

Q. DID YOU USE MAJOR SUPPLIERS, SUCH AS LUCENT AND NORTEL, FOR YOUR QUOTES ON PRICES AND HOURS?

A. No. The common systems infrastructure components and the magnitude of the construction project associated with physical caged collocation are relatively minor and smaller contractors can manage such installation at competitive prices. Indeed, even if larger suppliers, such as Lucent and Nortel, bid competitively, they are unlikely to be able to meet the short time intervals required for these very small jobs. For that reason, incumbent LECs typically have various smaller contractors who specialize in ironwork,

ATTACHMENT SET-4
COLLOCATION COST MODEL WHITE PAPER

COLLOCATION COST MODEL

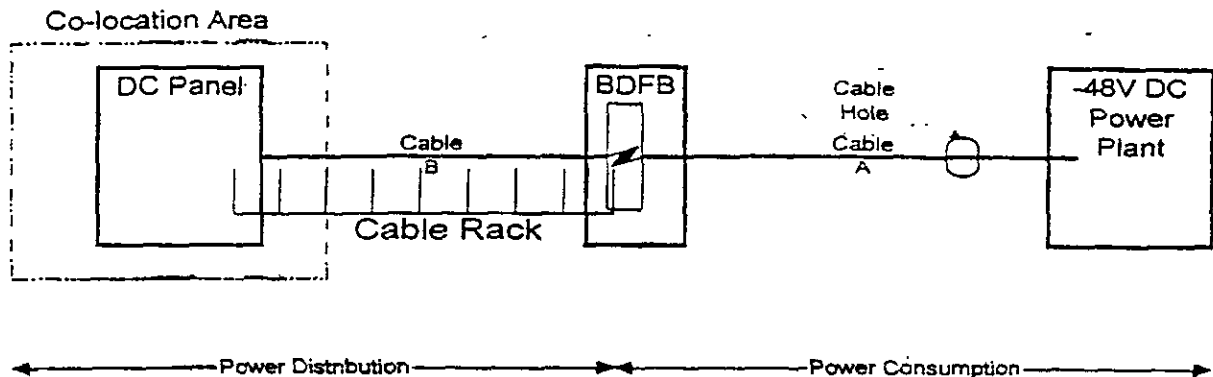
VERSION 3.0

TECHNICAL WHITE PAPER

**AT&T Corporation
&
MCI WorldCom, Incorporated**

October 16, 1998

COLLOCATION MODEL - -48V DC POWER DELIVERY



Power Delivery Elements (-48V DC Option)				
Element	Description	Prov. by CLEC/ILEC	Quantity	Remarks
-48V DC Power Panel	Located in Cage	CLEC	—	CLEC installs -48V DC panels in cage and terminates ILEC provided feed
Cable 'B'	4 x #6 Cable between Cage & Collo BDFB	ILEC	35'-0"	One-time cost for 40 Amps (20 Amp A & B feeds + return) as requested by CLEC -Includes 20'-0" drop in cage
Cable 'B'	4 x #2 Cable between Cage & Collo BDFB	ILEC	35'-0"	One-time cost for 100 Amps (50 Amps A & B feeds + return) as requested by CLEC - Includes 20'-0" drop in cage
Cable 'B'	4 x 2/0 Cable between Cage & Collo BDFB	ILEC	35'-0"	One time-cost for 200 Amps (100 Amps A & B feeds + return) as requested by CLEC - Includes 20'-0" drop in cage
Cable Rack	15" CLEC specific	ILEC	5'-0"	Included in cage investment
BDFB	Located close to Collocation Cages	ILEC	—	Included in -48V DC Power Consumption Cost

Cable Rack Occupancy	Shared support for Cable 'A' below	ILEC	—	Included in -48V DC Power Consumption Cost
Cable 'A'	Cable between -48V Power Plant & BDFB	ILEC	—	Included in -48V DC Power Consumption Cost
-48V DC Power Plant	Shared use between CLEC's & ILEC	ILEC	—	Included in -48V DC Power Consumption Cost
Auto-start Diesel Fuel Tanks, & AC Switchboard	Required for Battery Back-up	ILEC	—	Included in -48V DC Power Consumption Cost
AC Energy	Required for AC Energy used	ILEC	—	Included in -48V DC Power Consumption Cost

5.3 POWER CONSUMPTION COMPONENTS

The -48V DC power consumption components that are modeled to develop the power consumption recurring costs include all ILEC investments necessary to engineer, furnish, and install a shared -48V power plant, including the mandatory battery and diesel generator back-up. The model also includes amounts for fuel tanks, AC entrance, and switchboard equipment. Based on the previously discussed best power practice planning strategy, a BDFB and associated cabling components also are included to ensure the most cost-efficient method of delivering -48V DC power to the collocation area.

To maximize its flexibility, the model develops investments associated with two different power plant installations: a 2500 amp DC power plant and a 4000 amp DC power plant. These two sizes were selected to provide a reasonable range of ILEC investments in medium and large sized central offices, respectively.

The following components are included in the model to develop a cost for CLEC -

48V power consumption.⁹

- High capacity shared 1200 amp BDFB (A/B feed) with all shelves and fuses.
- Power cabling between the BDFB and ILEC -48V Power Plant.
- Batteries to provide up to four hours of reserve DC power.
- Battery Control Board (Power Distribution Center).
- Rectifiers (N+1) to carry load plus one for maintenance.
- Engineering and Installation costs.
- Cable rack and cable hole cost occupancy costs.
- Standby diesel generator to ensure continuous supply of AC power.
- Fuel tanks, AC entrance, switchboard equipment.
- AC Electric Energy component.

With a shared -48V DC power plant, it is impossible to separately meter (and separately charge for) CLEC AC electric energy usage. Therefore, an AC electric energy component is included in the model to account for the shared -48V DC power plant. As shown on Chart 3, the AC energy component is developed by restating the cost per AC kilowatt-hour as an AC energy rate per DC amp used.¹⁰ The rate determined as a result of this energy calculation is added to the costs per amp for DC power to create the all-inclusive monthly power consumption cost.

Chart 3	
Calculation of AC Electric Energy Component	
Quantity of DC Amps	1
Quantity of Watts per DC Amp	48
Hours Usage per Day	24
Days Usage per Month	30
Total Monthly DC Watts	34560
AC Equivalent Watts at 85% Rectifier Efficiency	40659
Total AC Kilowatt Hours	40.66
Cost per Kilowatt Hour	\$ 0.05
AC Energy Rate per DC Amp	\$ 2.03

⁹ Details regarding -48V power plant investments and the resultant cost are included in the Collocation Cost Model.

¹⁰ The example uses a rate of \$0.05 per Kilowatt hour for electric power. The Collocation Cost Model allows the actual rate per Kilowatt hour used in the cost calculations to be state-specific.

JOINT COMPLAINANTS

EXHIBIT 7

PUCT Docket No. 21333

AT&T/WCOM

Collocation Cost Model Excerpts

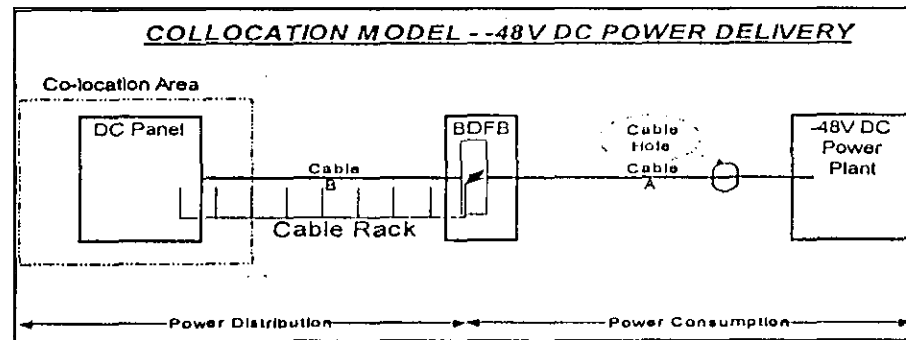
February 16, 2000

Physical Collocation Power Delivery Elements (-48V DC)

							TOTAL INVESTMENTS					
Element	Description	Unit Cost	Unit type	# of Units	Quantity required	Fill Factor (If applicable)	Total Investment	# of Requests of Cable	Investment per Request of Cable	Re-useable	Used by	Remarks
Cable 'B'	#6 Cable between Cage & Collo BDFB	\$3.94	LF	1	35	N/A	\$138.00	1	\$138.00	N	1 CLEC	One time charge for 2x20 Amp A + B feed plus 2 Battery Returns, by ILEC
Cable 'B'	#2 Cable between Cage & Collo BDFB	\$5.14	LF	1	35	N/A	\$180.00	1	\$180.00	N	1 CLEC	One time charge for 2x50 Amp A + B feed plus 2 Battery Returns, by ILEC
Cable 'B'	2/0 Cable between Cage & Collo BDFB	\$6.70	LF	1	35	N/A	\$234.60	1	\$234.60	N	1 CLEC	One time charge for 2x100 Amp A + B feed plus 2 Battery Returns, by ILEC
Cable Rack	15" CLEC specific	\$40.12	LF	1	5	N/A	\$200.59	NA		Y	1 CLEC	Required one time charge with first -48V DC Power request, between CLEC & ILEC BDFB rack. Fill Factor applied in Cable Rack Occupancy Chart included in White Paper.

Items Below Included in Power Consumption:

BDFB	Located close to Collocation Cages	\$0.00	EA.	1	0		\$0.00	NA		N/A	ILEC & All CLECs	Included in -48V DC Power Consumption Charge
Cable Rack Occupancy	Shared support for Cable 'A' below	\$0.00	LF	1	0		\$0.00	NA		N/A	ILEC & All CLECs	Included in -48V DC Power Consumption Charge
Cable 'A'	Cable between -48V Power Plant & BDFB	\$0.00	LF	1	0		\$0.00	NA		N/A	ILEC & All CLECs	Included in -48V DC Power Consumption Charge
-48V DC Power Plant	Shared use between CLEC's & ILEC	\$0.00	EA.	1	0		\$0.00	NA		N/A	ILEC & All CLECs	Included in -48V DC Power Consumption Charge
AC Electrical & Auto-start Diesel	Required for Battery Back-up	\$0.00	EA.	1	0		\$0.00	NA		N/A	ILEC & All CLECs	Included in -48V DC Power Consumption Charge



Physical Collocation 48V DC Power Consumption Costs

Element	Description	2500 Amp				4000 Amp				Re-useable	Used By	Remarks
		Engineer	Furnish	Install	Total	Engineer	Furnish	Install	Total			
1200 Amp BDFB	A & B Feed, e/w all shelves and fuses	\$ -	\$ 14,400.00	\$ 5,600.00	\$ 20,000.00	\$ -	\$ 14,400.00	\$ 5,600.00	\$ 20,000.00			
750MCM cable	Between -48V DC Power Plant & BDFB (4 Bat, 4 Return)		\$ 9,360.00	\$ -	\$ 9,360.00		\$ 9,360.00	\$ -	\$ 9,360.00			The Cost to install the Cable is included Above in the Cost to install the BDFB
Batteries	Sufficient to provide 4 Hour Reserve		\$ 145,600.00	\$ 18,666.00	\$ 164,266.00		\$ 280,000.00	\$ 34,666.00	\$ 314,666.00			
Power Distribution Center	Battery Control Board		\$ 7,000.00	\$ 5,000.00	\$ 12,000.00		\$ 10,500.00	\$ 8,000.00	\$ 18,500.00			
Rectifiers	(N+1) to carry load plus 1 for Maintenance		\$ 58,800.00	\$ 11,200.00	\$ 70,000.00		\$ 115,500.00	\$ 16,800.00	\$ 132,300.00			
Power Plant & BDFB Engineering		\$ 4,160.00	\$ -		\$ 4,160.00	\$ 5,200.00	\$ -		\$ 5,200.00			
15" Cable Rack Occupancy	4 x 750MCM x 150 ft. between Power Plant and BDFB	\$ -	\$ -	\$ -	\$ 948.00	\$ -	\$ -	\$ -	\$ 948.00			The Costs for Engineering Furnishing and Installing are included in the Total
Cable Hole Occupancy Charge	For 2 Cable Holes	\$ -	\$ -	\$ -	\$ 219.61	\$ -	\$ -	\$ -	\$ 219.61			The Costs for Engineering Furnishing, and Installing are included in the Total
Standby Generator	Includes fuel tanks, AC Entrance, & Switchboard Eqpt.	\$ -	\$ -	\$ -	\$ 107,692.00	\$ -	\$ -	\$ -	\$ 172,308.00			The Costs for Engineering Furnishing, and Installing are included in the Total
Total Investment		\$ 4,160.00	\$ 235,160.00	\$ 40,466.00	\$ 388,645.61	\$ 5,200.00	\$ 429,760.00	\$ 65,066.00	\$ 673,501.61			
Investment Per Amp					\$ 169.14				\$ 186.79			
Average Investment Per Amp							\$ 177.96					
Assumed Utilization of Power Plant							80.00%					
Actual Investment Per -48V DC Amp						\$ 222.45				Y	ILEC & All CLECs	

AC Component

Quantity of DC Amps	1
Watts per DC Amp	48
Hours Usage Per Day	24
Days Usage per month	30
Total Monthly DC Watts	34,560
AC Equivalent Watts at 85% Rectifier Efficiency	40,659
Total AC Kilowatt Hours	40.66
Monthly Cost per Kilowatt Hour	\$0.046
Monthly AC Rate per DC Amp	\$1.87

Note: State
Specific Input
on Inputs
Page

JOINT COMPLAINANTS

EXHIBIT 8

PUCT Docket No. 21333

Hearing on the Merits

Transcript Excerpts

September 27, 2000

pp. 343-350

Page 343

1 A (Turner) I cannot remember right now
2 what that value is.
3 Q Well, if Southwestern Bell told you it
4 was a quarter of a volt or .25, would you have
5 any reason to disagree?
6 A (Turner) That's the value that I was
7 generally remembering, but I'm not certain of
8 that. But I don't have any reason right now to
9 disagree with it.
10 Q Okay. Let's take the wheel, if we
11 would, and we will notice that it has lots of
12 numbers, and it has an inside wheel that turns.
13 It has a plastic, clear plastic, piece that
14 swings around it. It has a red line on it. Do
15 you see that?
16 A (Turner) Yes.
17 Q Let's start with your 40 amps at
18 35 feet. Okay?
19 Now --
20 A (Turner) Well -- go ahead and let's do
21 the 40 amps.
22 Q I'm sorry?
23 A (Turner) Go ahead.
24 Q Let's try 40 amps and see where it
25 takes us. Okay? And if we find the voltage

Page 344

1 drop that we are looking for, which is the .25,
2 it is .250, do you see that?
3 A (Turner) Yes, I do.
4 Q Okay. Now, if we find -- that's on the
5 inner wheel. Now, if we take the wheel and we
6 want to find the distance -- I'm sorry, the
7 amperage. We want to find the 40 amps that we
8 are looking for. So we take the little arrow at
9 the .250, and we run it out to where we see the
10 40. Do you see that?
11 A (Turner) Yes.
12 Q Okay. And now we take the clear
13 plastic piece that swings around, and we want to
14 find 35 feet.
15 So if we look on the inside track of
16 the inner wheel, you will see there is links in
17 there?
18 A (Turner) Uh-huh.
19 Q Find 35. Do you see that?
20 A (Turner) Yes.
21 Q And you will see it equates to a number
22 on the outside track of the outer wheel. It
23 looks like we are in the same place, and that's
24 a two.
25 Now, that would be two-gauge wire,

Page 345

1 would it not?
2 A (Turner) Yes. I believe that's
3 correct.
4 Q Okay. Now -- but as we indicated,
5 you're using six gauge. Why is it you are using
6 six gauge instead of two gauge -- well, let me
7 ask first. Would you agree that two-gauge wire
8 is larger and has a higher power or amperage
9 carrying capability than a six-gauge wire?
10 A (Turner) Yes.
11 Q Why is it you're using six gauge when
12 our power wheel tells us that if we want to be
13 carrying 40 amps of power for 35 feet, we should
14 be using a two gauge?
15 A (Turner) Because we are not running 40
16 amps of power across the wire.
17 Q Not running 40 amps, what are we
18 running?
19 A (Turner) The way the collocation cost
20 model is set up is that when you order 40 amps
21 of power, you get it in two 20 amp feeds, 20 amp
22 feed on the A side and 20 amp feeds on the B
23 side over 35 feet and -- so that would be --
24 that would be the problem that you are having in
25 your analysis. When you are trying to figure

Page 346

1 out if my wire gauge is incorrect, you would
2 have to also take into account that we are
3 really running -- when you run those four wires,
4 you are running two 20 amp feeds from A and B to
5 get the four wires.
6 Q Well, let me ask you to start with:
7 Wouldn't you agree with me that if you order 40
8 amps of power in a Southwestern Bell office --
9 first off, Southwestern Bell is going to provide
10 what's called redundant power, redundant power
11 leads?
12 A (Turner) That's exactly what I just
13 defined.
14 Q And redundant power leads, though,
15 means if you order 40 amps you get two power
16 leads each with 40 amps. So if the A lead
17 fails, you still have 40 amps being delivered to
18 you on the B lead?
19 A (Turner) It depends on exactly the
20 configuration of how you are setting up your
21 power. I'm as happy as a lark to go into all
22 the details if you would like for me to.
23 Q Well, would you agree if -- what you
24 are doing as far as costing in your collocation
25 cost model is -- it calls for 40 amps. What you

Page 347

1 are doing is you're providing two leads of 20
2 amps each, an A lead of 20 amps and a B lead of
3 20 amps? And I guess you are running it in a
4 series type arrangement in order to give you 40
5 amps of power?

6 A (Turner) No, that's not correct.
7 Normally what you'll have is you'll have a load
8 on your equipment that's needed, and it depends
9 on the time of equipment. There are two
10 different types of power configurations used
11 typically in the industry.

12 But typically what would happen is if
13 you had a 40-amp load on a piece of equipment,
14 you would feed that off of two fuses so that you
15 would have redundant power, and you would feed
16 part of the load to that equipment of A side and
17 part off of B.

18 So if you needed 40 amps of power, you
19 would only require to put 20 amps on each side,
20 and so that's the way we cost it out in the
21 model.

22 Q Right. But would you agree with me
23 that the Southwestern Bell inputs to the model
24 cost out providing the full 40 amps on both the
25 A side and the B side?

Page 348

1 A (Turner) It does, but then you are
2 really buying 80 amps of power from Southwestern
3 Bell, not 40.

4 Q And if one side of the power fails, if
5 the A side fails for some reason, you still --
6 if you have power requirements of 40 amps, you
7 still have 40 amps of power being delivered from
8 the B side?

9 A (Turner) See, that depends on the time
10 of equipment that you have set up. If you have
11 it set up in traditional telecommunications
12 equipment and you are feeding 20 amps into A and
13 20 amps into B and A fails, you will still only
14 draw 20 amps from B.

15 Q Well, I understand that. But if you
16 have 40 amps --

17 A (Turner) Well, there's other types of
18 configurations. I didn't know if you were
19 talking about --

20 Q If you had equipment that requires 40
21 amps of power and you feed it with two 20 amp
22 feeds, would you agree with me that if one of
23 the two feeds fail, that what's going to happen
24 is your equipment is not going to get the power
25 it needs and will either underperform or fail?

Page 3

1 A (Turner) Again, it depends on the type
2 of equipment. But if it is a traditional
3 telecommunications equipment, normally what
4 you'll have is you'll have like a zero
5 controller and a one controller. The zero
6 controller and the one controller can both
7 handle all the packs in the frame.

8 So that if the A side failed -- oh, and
9 by the way the zero controller and the one
10 controller would each be powered independently
11 off the A and the B feed.

12 So, for instance, if the A side failed,
13 the B side would continue to control one of the
14 controllers. So the frame would still operate
15 but then the termination cards, for instance, in
16 the frame some of -- half of those would fail if
17 you are in that configuration.

18 There is another configuration called
19 an OR-Gate power configuration, which I am in
20 another proceeding right now where we are trying
21 to deal with the complications that come from
22 that type of equipment. But it's a similar
23 environment except that the equipment never
24 completely fails.

25 Q Would you agree with me that the higher

Page 350

1 the power that's being delivered -- the higher
2 the amperage, the larger the power cable needs
3 to be in order to carry the amperage?

4 A (Turner) Oh, I agree. The problem
5 here is that the longer the distance, the larger
6 the cable has to be.

7 Q But apples to apples for just a moment.

8 A (Turner) Okay.

9 Q If -- using the analysis that you are
10 using, if you wanted to compare 40 amps of
11 collocation cost model power to 40 amps of power
12 provided by Southwestern Bell's cost model,
13 really what you would do is you would look at 20
14 amps of Southwestern Bell power to 40 amps of
15 collocation cost model?

16 A (Turner) If that's, in fact, how you
17 use the cost model. It's not -- you haven't --
18 it's not clear to me that that's exactly what
19 you have done. And what we are now blending
20 over into is a terms and conditions issue.

21 I think the terms and conditions for
22 ordering power are clear, and I believe that the
23 way that the collocation cost model calculates
24 the cost for power delivery is consistent with
25 what happens in the terms and conditions.

JOINT COMPLAINANTS

EXHIBIT 9

PUCT Docket No. 21333

Arbitration Award

March 2, 2001

Attachment A

Item Nos. 12 and 13

pp. 46-52

Arbitrators Award**Docket No. 21333****Proceeding to Establish Permanent Rates for Southwestern Bell
Telephone Company's Revised Physical and Virtual Collocation Tariffs
Attachment A****Item # 12 and 13: Cable Length (Power Delivery) and Cable Cost per Foot****SWBT POSITION**

- Power delivery cables connect from the battery distribution fuse bay (BDFB) to the collocation cages. The BDFB is shared by SWBT and the CLECs located in the collocation. Power cables also connect from the BDFB to SWBT's equipment lineups.
- The CCM incorrectly assumes that the BDFB is best located in the collocation area, approximately fifteen feet from each cage. (Adding another 20 feet of power cable to drop cable in the cage yields the CCM estimate of 35 feet of power delivery cable.)
- However, the most effective arrangement for locating the BDFB is to place it outside the collocation area, spaced between the SWBT and CLEC equipment drawing power from the BDFB. Locating the BDFB outside the collocation area enables SWBT personnel to access the equipment for maintenance and rearrangements. Access would be inhibited if the BDFB were located in the collocation area, because the area is secured to protect CLEC equipment.
- SWBT's power delivery cable length is 75', based on 55' between the BDFB and the cages and 20' for the cable dropped into the cage. The 75' cable length is based on a reasonable estimate of the distance from a cage to the perimeter of the collocation area, and from the collocation area to a nearby BDFB, with an allowance for a vertical cable drop to the BDFB.
- Cable sizes (gauges) and costs are affected by cable length. Shorter cables have less electrical resistance, and do not require as large cable gauges or as long cable lengths. The cable sizes assumed by the CCM for 40, 100, and 200 amp services are #6, #2 and 2/0 cables, respectively.
- The CCM develops cable costs per foot assuming only one hour of engineering and labor for installing four power delivery cables of 35' each. Material prices per foot (per cable) are based on 1997 prices from Primal Communications - \$0.20, \$0.50 and \$0.89 per foot for #6, #2 and 2/0 cables. The calculation for the 40 amp cable cost is as follows:
 - $\$3.94 = (1 \text{ hr.} \times \$55/\text{hr.} + 4 \text{ cables} \times 35' \times \$0.20/\text{ft.} + 1 \text{ hr.} \times \$55)/35'$

Arbitrators Award
Docket No. 21333
Proceeding to Establish Permanent Rates for Southwestern Bell
Telephone Company's Revised Physical and Virtual Collocation Tariffs
Attachment A

- SWBT's proposed cable costs reflect the larger cable gauges required for a 75' cable length. The cable sizes for 40, 100 and 200 amp services are 4/0, 500 MCM and 750 MCM. Cable costs for comparable 40 amp service are calculated as follows:¹⁴⁶
 - $\$44.74 = (\$500 \text{ engineering} + 4 \text{ cables} \times 89' \times \$2.99/\text{ft.} + \$2,374 \text{ installation} + \$83.64 \text{ transportation})/89'$
 - Engineering costs (\$500/cable job) and transportation (\$83.64) are the same for the other cable sizes. Material prices and installation costs are greater for the larger cable sizes.
- SWBT's engineering, materials and installation costs are based on a current quote. Engineering and installation costs are based on work activities required by SBC Telecommunications' TP76300MP Installation Guidelines and include the following:
 - Preparing Methods of Procedure (MOP) documents outlining safety considerations for the job. Reviewing and obtaining approval of MOPs.
 - Performing site preparation to protect floors, walls and adjacent equipment during installation.
 - Staging materials, equipment and tools.
 - Placing cables, including arranging cable spools, guiding cables in place, and sewing cable securely in place to avoid damage from chafing against adjacent cables. The latter activity is very time consuming, but is important to avoid future fire hazards.
 - Acceptance testing.
 - Cleaning up.
 - All work near exposed or power equipment ('hot work') is performed during off-hours
- It is not possible for a crew of two or more cable installers to travel to a central office, perform site preparation, stage materials and equipment, place 75' of four power cables, sew these cables in place, and clean-up in one hour, as assumed by the CCM. Assuming a vendor labor charge of \$80 - \$85/hour, Lucent's quote would be based on a total installation time of about 29 hours. This would be approximately two days of work for a crew of two cable installers.¹⁴⁷

SUPPLEMENTAL INFORMATION – SWBT

¹⁴⁶ To develop cable costs per foot, the costs for cable sections 89 feet in length were used by the vendor. The resulting cost per foot was applied against the 75 foot length of the power delivery cables.

¹⁴⁷ Mr. Turner on pages 193 – 194 of his deposition by SWBT indicates two installers would be required to place the power delivery cable.

**Arbitrators Award
Docket No. 21333
Proceeding to Establish Permanent Rates for Southwestern Bell
Telephone Company's Revised Physical and Virtual Collocation Tariffs
Attachment A**

- Unlike the CCM assumption it is not SWBT's general practice to locate the BDFB within the common area. SWBT acknowledges that the BDFB should be placed at the load center. By placing the BDFB at the load center, SWBT would be considering how much amperage each collocator is using so as to minimize the length of power cable and the drop in voltage.¹⁴⁸
- SWBT stated that SWBT's design standard is to allow for .25 volt drop between BDFB and collocator's equipment; and .75 volt drop between the power plant and the BDFB.¹⁴⁹
- SWBT stated that because some of the work associated with the power plant has to be done after hours, the labor rate is higher than normal hours.¹⁵⁰ SWBT argued that R.S. Means would not be appropriate for this type of work, because it does not consider after hour and specialty work.¹⁵¹
- SWBT argues that the CCM allocated only one hour for the installation of power cables and that it is not possible to install four cables in an hour.¹⁵²

AT&T/WORLDCOM POSITION

- The CCM is based on a 1997 quotation from Primal Communications Limited of Canada to engineer, furnish, and install power cables to collocators cage. Primal Communications provides engineering and installation services for power and other telecommunications projects. However, contrary to SWBT's assertion, the quotes developed by Primal Communications were based on US manufacturers such as RELTEC and Nortel that regularly perform power work for incumbents in the US.
- The CCM assumes that the BDFB is located inside the collocation common area. This assumption is correct according to SWBT's own engineering guidelines, which indicate that the BDFB must be placed in close proximity to the equipment that it is powering. Given that most of the DC power from the BDFB will go to the collocation arrangement, the placement of the BDFB in the common area is appropriate and consistent with SWBT's own engineering guidelines. SWBT's assertion that its contracted installers and technicians do not have access to the common area is absolutely false. SWBT can permit its installers to enter this area.

¹⁴⁸ Tr. at 795.

¹⁴⁹ *Id.* at 834, 837, 838.

¹⁵⁰ *Id.* at 840.

¹⁵¹ *Id.* at 845.

¹⁵² SWBT Initial Brief at 68.

Arbitrators Award
Docket No. 21333
Proceeding to Establish Permanent Rates for Southwestern Bell
Telephone Company's Revised Physical and Virtual Collocation Tariffs
Attachment A

Moreover, its technicians have the same access capabilities to enter the common area, as do the CLECs.

- According to SWBT's own engineering guidelines, the average distance from its equipment to the BDFB is from only 15 feet to a maximum length, for the most distant rack of 40 feet. SWBT's use of 75 linear feet for all collocation arrangements is discriminatory in that it places the CLEC at a competitive disadvantage by imposing this significantly longer distance on the CLEC than SWBT bears.
- Given this shorter average distance of 27.5 feet, the cable sizes and therefore, costs used in the CCM are appropriate. SWBT's cable diameters are significantly large and its costs too great if a nondiscriminatory distance/engineering methodology is used between the BDFB and the collocator equipment.
- Given the simplicity of this cable run, one hour for engineering is appropriate.
- All material is included in the CCM quote and is the appropriate cable diameter for the distance used in the CCM.

SUPPLEMENTAL INFORMATION – AT&T/WORLDCOM

- AT&T/WorldCom notes that SWBT's modification is a change in the location of the BDFB. This change modifies a basic assumption, and the logic of the CCM.¹⁵³ AT&T/WorldCom explains that the CCM derives its cable distances between the collocation components based on an assumption. The CCM also derives the cable lengths and sizes for connectivity of the power to the collocation arrangement based on its assumption.¹⁵⁴ AT&T/WorldCom emphasizes that modifying the location of the BDFB dramatically changes the cable lengths and the cable sizes. Consequently, the resulting costs also change.¹⁵⁵
- AT&T/WorldCom asserts that locating the BDFB centrally or in close proximity to the equipment it serves is sound operational practice.¹⁵⁶ It asserts that SWBT's engineering practices and a diagram of a collocation area demonstrate that the BDFB is placed centrally to where the power is extended.¹⁵⁷ The Greenwood Central Office visit confirms this operational practice.¹⁵⁸ Hence, the distance for cabling between

¹⁵³ AT&T/WorldCom's Initial Joint Closing Brief at 60.

¹⁵⁴ AT&T/ WorldCom Joint Reply Brief, p. 50.

¹⁵⁵ *Id.*

¹⁵⁶ AT&T/WorldCom's Initial Joint Closing Brief at 60.

¹⁵⁷ Tr. at 796.

¹⁵⁸ AT&T/WorldCom's Initial Joint Closing Brief at 60.

Arbitrators Award
Docket No. 21333
Proceeding to Establish Permanent Rates for Southwestern Bell
Telephone Company's Revised Physical and Virtual Collocation Tariffs
Attachment A

the BDFB and the equipment is about 35 feet,¹⁵⁹ and the distance between the power plant and the BDFB is on average about 165¹⁶⁰ feet. AT&T/WorldCom asserts that there are three variables that go into cable costs, voltage, current, and cable distance; the longer the distance, the larger the cable diameter. AT&T/WorldCom claims that based on AT&T/WorldCom's standards, the voltage drop between the BDFB and the equipment is 0.3 volt and another 1.45 volts between the equipment and the battery pole.¹⁶¹

- AT&T/WorldCom notes that SWBT raised three areas of continued dispute.¹⁶² First, SWBT claims that the CCM's estimate of 35 feet distance is inadequate; second, placement of the BDFB should allow SWBT access for maintenance, and third, the CCM underestimates the size of the cable and the resulting installation costs.¹⁶³
 - On the first issue, the Greenwood Central Office illustrates a centrally located BDFB.¹⁶⁴
 - On the second issue, AT&T/WorldCom notes that the BDFB at the Greenwood Central Office was centrally located in a caged area. AT&T/WorldCom asserts that there is simply no basis for SWBT's assertion to support an average cabling distance of 75 feet.¹⁶⁵
 - On the third issue, AT&T/WorldCom explains that cable size is driven by its distance. A shorter cable length will have a smaller cable size.¹⁶⁶
 - On the issue related to installation, AT&T/WorldCom asserts that it will only take a single worker to install the power delivery cable from the BDFB to the cages.¹⁶⁷ AT&T/WorldCom proposes a labor rate of \$55 per hour based on its experience with vendors.¹⁶⁸ AT&T/WorldCom also notes that cable installation between the BDFB and active equipment is done after hours.¹⁶⁹ AT&T/WorldCom admits based on the evidence presented by SWBT, the power delivery cable is not flexible.¹⁷⁰

¹⁵⁹ Tr. at 796-799.

¹⁶⁰ *Id.* at 800.

¹⁶¹ *Id.* at 836.

¹⁶² AT&T/WorldCom Joint Reply Brief, p. 51.

¹⁶³ *Id.*

¹⁶⁴ *Id.*

¹⁶⁵ *Id.*

¹⁶⁶ *Id.*

¹⁶⁷ Tr. at 338.

¹⁶⁸ *Id.* at 841-842.

¹⁶⁹ *Id.* at 844.

¹⁷⁰ *Id.* at 340-341.

Arbitrators Award
Docket No. 21333
Proceeding to Establish Permanent Rates for Southwestern Bell
Telephone Company's Revised Physical and Virtual Collocation Tariffs
Attachment A

- AT&T/WorldCom agrees with SWBT that work near exposed power plant equipment is done after hours.¹⁷¹

COALITION POSITION

SUPPLEMENTAL POSITION - COALITION

- The Coalition supports the use of the labor rates approved in the SWBT Mega-Arbitration proceeding in determining the Planning Labor costs.¹⁷² The Coalition concurs that the CCM did not properly account for the off-hours work.¹⁷³ But, the Coalition avers that this off-hour labor is appropriate only for labor used in installing cable power delivery, i.e. cable from the BDFB to the collocation cage.¹⁷⁴

ARBITRATORS' POSITION

- The Arbitrators determine that the cable cost per foot is as follows:
 - for the 40-ampere cable -----\$16.65,
 - for the 100-ampere cable----\$29.39, and
 - for the 200-ampere cable--- \$61.56.
- The Arbitrators determine power delivery cables sizes based on the following findings:
 - The cable length is 55 feet. The Arbitrators find that the distance of 55 feet is based on the layout of the collocation space in the CCM. The Arbitrators find that the BDFB should be located in a common area to serve the powering needs of collocators. The Arbitrators find that a distance of 55' is reasonable in that it is close to placing the BDFB at the load center.
 - The Arbitrators find that the allowable voltage drop from the BDFB to the collocators cage should be 0.3 volts. Although, as observed during the field visit to the Greenwood Central Office, the measured value of voltage drop from the battery plant to the BDFB was much lower, the design standard for allowable voltage drop should be 0.7 volts. This allows for a total of one (1) volt drop from the battery plant to the collocator's cage. The Arbitrators agree with SWBT that allowance for a one volt drop is the design standard in the industry.
 - The 40 ampere, 100 ampere, and 200 ampere loads shall be considered in estimating the cost of cabling.

¹⁷¹ *Id.* at 840.

¹⁷² CLEC Coalition Initial Brief, p. 25

¹⁷³ *Id.*

¹⁷⁴ *Id.*

Arbitrators Award
Docket No. 21333
Proceeding to Establish Permanent Rates for Southwestern Bell
Telephone Company's Revised Physical and Virtual Collocation Tariffs
Attachment A

- Based on the above findings, the Arbitrators determine the cable sizes to be 1/0 for the 40 ampere cable, 4/0 for the 100 ampere cable, and 500 MCM for the 200 ampere cable. The Arbitrators determined the cable sizes by using the Marconi wheel, a device presented as evidence by SWBT. The Arbitrators find that the wire sizes are related to the distance, voltage drop, and the ampere load.
- In determining the cable costs, the Arbitrators adjusted the material and installation cost in order to be Texas specific. This adjustment required determining the median of the city cost indices for the state of Texas consistent with the adjustments made by the CCM. The Arbitrators used the city indices listed in 2000 R.S. Means.¹⁷⁵ The adjustment factor is 71.60%.
- The Arbitrators developed the cable costs based on the unit material and installation cost listed in 2000 R.S. Means.¹⁷⁶ The Arbitrators find it appropriate to include engineering and transportation cost. The Arbitrators adopt AT&T/WorldCom's proposed engineering cost and SWBT's proposed transportation costs.

¹⁷⁵ See 2000 R.S. Means at 637-639.

¹⁷⁶ *Id.* at 447.

JOINT COMPLAINANTS

EXHIBIT 10

**PUCT Docket No. 21333
Workshop Transcript Excerpts
March 21, 2001
pp. 32-37**

Page 30

Page 32

1 MR. TURNER: I'm going to move now
2 to the back-up generator.

3 MS. MUDGE: Your Honor, is it
4 possible to give Mr. Turner a little break,
5 given that he does have a cold and his voice?
6 Could we just maybe take a five-minute break to
7 just give his voice a break?

8 MS. GEIGER: Let's go ahead and
9 take a morning break of 15 minutes.

10 MS. MUDGE: Thank you, Your Honor.
11 (Recess: 10:33 a.m. to 10:51 a.m.)

12 MS. GEIGER: Okay. Let's go back
13 on the record, Mr. Turner, if you would like to
14 continue --

15 MR. TURNER: Okay. We're now
16 going to make the back-up generator change,
17 which, I think, is Item No. 13. Excuse me.
18 It's Item No. 9 or 10, standby generator.

19 So if you go to the consumption
20 worksheet, it's Cell No. F15. You type in
21 \$112,120 into F15, which is the EF&I investment
22 for the standby generator for the 2500-amp
23 plant, and then you make a change to Cell J15,
24 which is the EF&I investment for the 4000-amp
25 plant standby generator. The value there should

1 and change that value to \$179,391. That
2 completes the EF&I changes for the standby
3 generator.

4 Okay. I'm going to move now to the
5 next area, which is Items 12 and 13, which is
6 the DC power delivery cable link and cable cost
7 per foot, and before I jump into that, could I
8 just ask -- because we had a lot of discussion
9 on this at the last hearing, and then the
10 arbitrators issued an order clarifying
11 arbitrators' Phase I award, and in the case of
12 the 40-amp and 100-amp arrangements, the
13 arbitrators modified it consistent with what we
14 had discussed, which is to divide the value by
15 four, but for the 200 amp or the two 100-amp
16 feeds, it appeared that you had something else
17 in mind there, and I was wondering if you could
18 help us understand that.

19 MR. SRINIVASA: Right. Based on
20 questions that were raised during the clarifying
21 session last hearing, arbitrators had to go back
22 and rethink about -- instead of sizing it for
23 two 100 amps, it was two 50 amps. Cable size
24 was also -- cable size was -- actually, the
25 cable was resized to handle 50 amperes, and then

Page 31

Page 33

1 be 179,391 per the clarifying arbitration order
2 Phase I award.

3 Then you need to go to Cell F61, which
4 makes the change in the common collocation area.
5 Cell F61, which is the EF&I investment for the
6 standby generator for the 2500-amp plant, change
7 it to 112,120. Then standby generator EF&I
8 investment for the 4000-amp plant, which is Cell
9 J61, would be changed to 179,391.

10 Then you go to Cell F103, which is the
11 adjacent on-site collocation power consumption
12 cost, and you go to Cell F103, which is the
13 standby generator EF&I investment for the
14 2500-amp plant. You change that value to
15 112,120.

16 Then go to Cell J103, which is the EF&I
17 investment for the standby generator for the
18 4,000-amp plant. You'd change that value to
19 179,391.

20 Then you go to the virtual consumption
21 worksheet to Cell F15, which is the standby
22 generator EF&I investment for the 2500-amp
23 plant. Change that value to \$112,120. Then go
24 to Cell J15, which is the EF&I investment for
25 the 4000-amp plant for the standby generator.

1 we came up with the rates for two 50-ampere
2 cables. That means that there are four cables
3 that can carry 50 amps, and that's what the rate
4 is. It's \$7.34, and for the 200 ampere, we
5 modified the two 100 amperes, and the cables
6 were sized to carry 100 amps. There are four
7 cables there also. That price is \$28.82.
8 Actually, it's the costs.

9 MS. MUDGE: I guess the question
10 was we just aren't clear how you came up with
11 the \$28.32.

12 MR. SRINIVASA: 82 cents.

13 MR. TURNER: Because when you go
14 from 200 amps to 100 amps, the cable should have
15 actually gotten smaller, so whereas you divided
16 the first two by four, I would have thought that
17 this one would have been divided by four and
18 actually been smaller than -- if you were
19 actually doing both changes at the same time, it
20 would have been less than dividing -- you know,
21 dividing by four would have been approximately
22 \$16 or so. It ended up being greater, and I was
23 just wondering about that.

24 MR. SRINIVASA: Instead of 500 MCM
25 cable, now it's 4/0 cable for the 100 ampere.

1 4/0 cable for the 100 ampere cable, the rates
2 turned out to be that based on R.S. Means, Page
3 447.

4 MR. TURNER: Thank you. Well, I'm
5 just going to, at this point, type in those
6 changes. The way you do that is to go to the
7 conductivity element backup worksheet,
8 consistent with the discussion we had before,
9 and go to Cell K16, and K16 is the per-foot
10 price, and this is for the two 100-amp feeds.
11 I'm going to type in the value of 28.82.

12 Then Cell K17, which is the two 50-amp
13 arrangements, you type in the value of \$7.34.

14 MR. SRINIVASA: Also in the
15 description column you have to change it.

16 MR. TURNER: It actually says that
17 over in the notes column. It says, "Includes
18 50-amp A and B feed plus two battery returns,"
19 as being what a 100-amp arrangement is.

20 MR. SRINIVASA: Right. It's four
21 55 feet --

22 MR. TURNER: Oh, I see what you're
23 saying. You want me to correct the note as
24 well.

25 MR. SRINIVASA: Right.

1 MR. TURNER: This should be 2-20
2 amps. Then the last change that I haven't done
3 yet is K18 should read \$4.44.

4 MR. SRINIVASA: Does Southwestern
5 Bell have any question on that?

6 MS. CATHCART: No questions.

7 MR. TURNER: Okay. Now, you need
8 to go to delivery input. Cell F4 needs to be
9 changed to 55 feet. Cell F5 needs to be changed
10 to 55 feet, and Cell F6 needs to be changed to
11 55 feet, and I would suggest, too, just to be
12 consistent, that we change the description here
13 as well. Would that be helpful?

14 MR. SRINIVASA: Yes.

15 MR. TURNER: So for the two 20-amp
16 arrangements, it was a No. 4 cable, I believe.

17 MR. SRINIVASA: That's correct.

18 MR. TURNER: For the two 50-amp
19 arrangements, it's a 1/0 cable, and for the two
20 100-amp arrangements it's a 4/0 cable. Our
21 marks are correct.

22 Now I'm going to move to Cell F37,
23 which is common collocation, and make the same
24 changes here. F37 would change to 55 feet. F38
25 would change to 55 feet. F39 would change to 55

1 MR. TURNER: Let me do that then.
2 So Cell A16 would be four by 55 feet.

3 MR. SRINIVASA: Instead of 2/0,
4 that will be 4/0 for the --

5 MR. TURNER: Do you want me to
6 change the parenthetical? Instead of saying 200
7 amp total say two 100-amp feeds?

8 MR. SRINIVASA: Yes.

9 MR. TURNER: Okay. Let me see how
10 you wrote that:

11 MR. SRINIVASA: 2-100 amps.

12 MR. TURNER: 2-100 amps. That
13 changes Cell A16. Now I'm going to now change
14 Cell A17 to be four by 55 feet.

15 MR. SRINIVASA: Is that for the --

16 MR. TURNER: This is for the two
17 50-amp arrangements. You can tell me the cable
18 size there.

19 MR. SRINIVASA: No. 4 for the 20
20 amp and 1/0 for the 50 amp.

21 MR. TURNER: You want me to change
22 this to say 2-50 amps. Then this -- I'm now
23 going to change Cell A18 to say four by 55 feet.

24 MR. SRINIVASA: Instead of No. 6,
25 it will be No. 4.

1 feet. Then I'm going to change the notes. A --
2 B37 would change to a No. 4 cable. B38 would
3 change to 1/0 cable, and B39 would change to 4/0
4 cable.

5 I'm going to now move to Item 16, which
6 is the cable rack cost per foot, and the place
7 you make those changes is in conductivity
8 element backup. That's the worksheet you'd make
9 the change in, and Cell K5, which is the 12-inch
10 ladder rack, the cost per foot changes to
11 \$37.91.

12 I'll come back in a moment and deal
13 with the fiber raceway, but just to -- for the
14 record, I'll just do the one change at a time.
15 K7, which is the cost per foot for the 15-inch
16 rack, which is for power cable, changes to
17 \$39.85.

18 K9, which is the cost per foot for the
19 15-inch rack -- again, it's in here twice, but
20 I'll just -- in the backup sheet, and then K10,
21 which is the cost for 20-inch rack, which is for
22 the copper conductivity, changes to \$42.03,
23 which is in Cell K10, and that completed the
24 changes for Item 16.

25 MS. CATHCART: I've got a question

JOINT COMPLAINANTS

EXHIBIT 11

**PUCT Docket No. 21333
Workshop Transcript Excerpts
May 2, 2001
pp. 110-124**

Page 110

1 the award, here is what we are going to do.
 2 "The DC power consumption charge consists of the
 3 use of the DC power plant system, to the AC
 4 input and AC backup. The DC power charge is on
 5 a per-amp basis." Let's delete the rest of it.
 6 If they 20-amp subject to the order, then 20
 7 sometimes whatever it is.

8 MR. HERRERA: Could you repeat
 9 that?

10 MR. SRINIVASA: "The DC power
 11 consumption charge consists of the use of the DC
 12 power system, the AC input and AC backup,"
 13 period. "The DC power charge is on a per-amp
 14 basis."

15 MS. PENG: Do you want to delete
 16 the two bullets that we have listed?

17 MR. SRINIVASA: Yes. I think we
 18 have already stated what it consists of. "Rates
 19 and charges are found in Section 21.5."

20 MS. PENG: Now, the next issue,
 21 Your Honor, is Southwestern Bell had requested
 22 the deletion of "redundant" because it's our
 23 understanding that based on the award, we are
 24 not providing redundant power.

25 MR. SRINIVASA: See, the DC power

Page 112

1 this, and we agreed to go back to the language
 2 the way it was originally in the tariff. So as
 3 a result, you had the either 20, 40 language in
 4 there.

5 I take it that while we agree that --
 6 and Southwestern Bell did reserve the issue
 7 about redundancy. I'm not trying to say they
 8 didn't. But I wanted to give you some idea of
 9 kind of how we got there and why we still had
 10 the 20, 40 because we said, "Okay. Let's just
 11 go back to the way it currently reads in the
 12 tariff."

13 We do not have a problem with taking
 14 out the "20, 40" and the word "or" because it's
 15 obvious that this particular section deals with
 16 a DC power panel with a maximum load of 50 amps.
 17 So we don't have any problem with taking "20,
 18 40" and the word "or" out.

19 But we do believe that even with that
 20 change, you have to have the word -- the
 21 parenthetical word "redundant" in there.

22 MR. SRINIVASA: "DC power panel is
 23 designed to provide a maximum of 50 amps,
 24 parenthesis, (DC voltage)." It is maximum 50
 25 amps. Well, do we have two 100 amps?

Page 111

1 panel is designed to provide either a 20 -- we'd
 2 have two 20-amp feeds, two 50-amps and two
 3 100 amps. That's how the rates are set. When
 4 you have two, that means there was an
 5 agreement --

6 MS. MUDGE: We will also note that
 7 that language -- that language that Southwestern
 8 Bell proposes to delete is in the current
 9 tariff.

10 MR. SRINIVASA: So your position
 11 is that it should be left intact?

12 MS. MUDGE: Yes, sir, absolutely.

13 MR. SRINIVASA: Do you want to
 14 keep the 20, 40 or 50?

15 MS. MUDGE: Well --

16 MS. PENG: The parties had already
 17 agreed to.

18 MR. SRINIVASA: Rates?

19 MS. MUDGE: What happened in this
 20 case was Southwestern Bell, in the first version
 21 they sent us, had proposed to delete -- this
 22 particular provision was changed extensively,
 23 including taking out 20, 40.

24 When we got on the conference call, we
 25 were going round and round about how to fix

Page 113

1 MS. MUDGE: We do, but that would
 2 be in 20.7, I believe. But maybe I'm
 3 misunderstanding your question, Judge. Help me
 4 understand your question.

5 MR. SRINIVASA: Well, we have a
 6 rate set for --

7 MR. HERRERA: They are on a
 8 per-amp basis.

9 MS. PENG: We address the 100- and
 10 the 200-amp panel in the next paragraph.

11 MR. SRINIVASA: We do?

12 MS. MUDGE: Yes, sir. Now, so
 13 what -- do I hear what you are saying, Judge, is
 14 that with respect to that second sentence, you
 15 would delete -- actually you would delete the
 16 words "either 20, 40" or you delete that
 17 language?

18 MR. SRINIVASA: "Designed to
 19 provide a maximum of 50 amps of DC voltage
 20 redundant."

21 MS. MUDGE: Okay. And we're
 22 agreeable with that.

23 MS. PENG: Can we have just one
 24 moment?

25 MS. MUDGE: I'm sorry,

1 Ms. Gonzalez. I wasn't trying to tell you what
2 to do. I apologize for that. I'm sorry.

3 MS. PENG: Your Honor, my
4 understanding of the reasoning behind the
5 deletion of the word "redundant" is that the way
6 the power has been ordered to be provided by
7 Southwestern Bell for the 40 -- for a
8 40-ampereage, we do the two 20-amp leads, that
9 provides a total of 40 amps. It is not 40 amps
10 redundant.

11 So to state it's redundant would
12 require another two feeds to provide a second 40
13 amps of power in case the first failed. So what
14 we have been ordered to provide is not
15 redundant, and that's why we had requested the
16 deletion of that term.

17 MS. MUDGE: We completely disagree
18 with that. The way it is costed and the way we
19 talked about -- and this was a disputed issue in
20 the arbitration award. We talked about the
21 issue of redundancy ad nauseam. And, in fact,
22 Southwestern Bell is providing redundant, but
23 the difference is that they are providing -- for
24 example, in 40, it is two 20-amp feeds.

25 So I think it is -- I think that this

1 a redundant, fully redundant, 40-amps on another
2 lead. So that if one lead went down, you would
3 still have 40 amps of power.

4 When you provision 40 amps of power
5 over two leads, what you have is you have 20
6 amps of power. If one of those goes down, you
7 are only supplying 20 amps of power. So it's in
8 the definition of redundant, and Southwestern
9 Bell does not believe that two 20-amp leads is
10 equal to 40 amps of redundant power.

11 MS. MUDGE: Judge, that's exactly
12 what Ms. Cathcart said in our clarification, and
13 as I recall, what Mr. Turner explained was but
14 that is inconsistent with, number one, the way
15 the CCM is costed. But, number two, it is
16 inconsistent with the way Southwestern Bell
17 provides DC power to itself.

18 And as a result, we thought -- and we
19 still believe -- that when we were doing the
20 clarification, you ruled -- you clarified and
21 said, "No, I appreciate what you are saying,
22 here. Southwestern Bell. But we do not agree."
23 And we believe that you clarified it so that
24 this language is consistent with your
25 clarification.

1 is an issue that I think goes back to a dispute
2 we had in the arbitration, one that we believe
3 is -- was decided appropriately in the award.
4 And as a result, we think that the language
5 should remain the way it is.

6 MR. SRINIVASA: Ms. Cathcart, we
7 talked about this in the clarification session
8 that we had. How many cables there were: Two
9 cables, four cables. Each cable has a fuse
10 associated with that in the DC power panel.

11 MS. CATHCART: That's correct.

12 MR. SRINIVASA: So the reason why
13 four cables were sized was if someone requests
14 two 20-ampere, you have the other two cables as
15 a redundant provision.

16 MS. CATHCART: No. My
17 understanding is that the reason we have -- if
18 they order 40 amps of power, it is provided over
19 two separate leads, a lead being two cables
20 each. And, therefore, it is 20 amps over one
21 lead and 20 amps over the other lead.

22 Southwestern Bell does not view that as
23 being redundant power. That is power
24 provisioned over two leads. A 40-amp redundant
25 power delivery would be 40 amps on one lead and

1 MR. SRINIVASA: Arbitrators'
2 decision -- on Page 51 it says, "Arbitrators
3 recommend that the cost for four cables is as
4 follows: The two 20-ampere cables, \$4.44"; four
5 cables, A and B lead -- A lead 20-amp, B lead
6 20-amp and then you have another 20 amp and
7 another 20 amp. If something fails, the other
8 one still serves 20 amp. It is not 40 amp
9 together.

10 MS. MUDGE: That's right.

11 MS. CATHCART: No. It is 40 amp
12 together. You have two leads that are two
13 cables each. You have a battery and a return
14 cable, and therefore, you have two cables in one
15 lead that's going to supply 20 amps of power.
16 You have two cables in the second lead that's
17 going to provide --

18 MR. SRINIVASA: Isn't that a
19 backup?

20 MS. CATHCART: No, not if they
21 have ordered 40 amps of power.

22 MR. SRINIVASA: If they've ordered
23 40 amps, then you have to size two -- four
24 40-amp cables. And there is no rate element
25 here for 40-amp that is nonstandard.

MS. CATHCART: My understanding is that the power delivery comes in 40-amp, 100-amp and 200-amp increments and that the 40-amp increment consists of two 20-amp leads, which means that it will provide totally 40 amps of power with no backup power to those 40 amps.

MR. SRINIVASA: Well, what is clear or what is contained in the arbitration -- arbitrators' award is for 40-amperes, that means you are providing them two 20-ampere, two A feeds, two B feeds, each cable capable of carrying 20 amps.

It was not to allow them to carry 40 amps on that, even though -- that was the clarification that we made. It's not a 40-ampere service, two 20-ampere service. If they want 40-ampere service, then you would have to size four cables, each one capable of carrying 40 amps, and that's not even priced out here.

MS. CATHCART: Okay.

MR. SRINIVASA: That's nonstandard.

MS. CATHCART: So our offering then really is not 40 amps, but two 20 amps and

inconsistency with the way the rate is shown as an optional rate and then this shown is as a required rate element.

Now, we recognize that we think it's an ambiguity. What we are going to be doing is in our comments, we are going to be proposing language that makes the two provisions consistent. To the extent that Southwestern Bell wants to change the word "redundant" in something that's already existing and it was not an issue -- I mean, we think it's been clarified in the arbitration award and in our last session and even today.

To the extent that they think they need additional clarification or modifications, then have them do that in their comments as opposed -- because we are not going to reach an agreement on this one. We believe -- and to me if they want to clarify it even further as Ms. Cathcart has suggested, put that in the comments and let you guys and ultimately the Commission decide.

MS. PENG: Your Honor, the problem that we have with Ms. Mudge stating that she is going to be offering tariff language in her

two 50 amps and two 100 amps.

MR. SRINIVASA: That's in the arbitrators' award. That's what we clarified in the last session.

MS. CATHCART: Okay.

MR. SRINIVASA: So that being the case, maximum of 50 amps means that -- in a fuse size you can accommodate is 50 -- or is the whole panel capable of handling only 50 amps? If there's a 50-amp panel, that means that panel cannot handle more than 50 amps all together. So you can only serve 20-amperes, two of them, off of that.

MS. PENG: But the way it reads to say a maximum of 50 amps redundant appears to require us to provide two 50s.

MS. MUDGE: That is not the way --

MS. CATHCART: If we don't use 40 as -- if we have substituted the 40 amps as two 20 amps, then it seems that the 50 amps there should be modified as well.

MS. MUDGE: And, Your Honor, here we go. We have proposed changes that need to be made to this DC power panel provision as well that -- because we think there is an

comments is that we have not had the benefit of seeing that language. And as I understand it, our reply comments are limited. So it is during this tariff exercise that if the other parties are proposing language for the tariff, it should have been provided to us, and it should be either listed in here as competing language -- and we should show it as competing language that the parties dispute and leave it in the tariff that way.

But I don't believe that it's fair for us to see their proposed language in the comments.

MS. MUDGE: Oh, and let me tell you, Judge, on April 26 or April 25 when we sent it back to Southwestern Bell, it had our proposed language in it, and Southwestern Bell has not put that in there. So we have provided them with our proposed language, including adding the word "optional." We have done that, Judge.

It's just that it isn't reflected here because during our conference call, we all agreed -- we are talking past each other. So what we need to do is we need to -- we recognize

1 there are problems with this section, and we
2 need to get it back. But if you look at our
3 version, we did propose specific language to
4 revise that and to make it consistent.

5 Again, I was simply telling you that
6 because I was trying to make the point, Judge,
7 that it is obvious to me that Southwestern Bell
8 wants to clarify language that already exists,
9 and they want to clarify something that's in the
10 arbitration award. Then the appropriate place
11 for that is in their comments, and all I was
12 trying to do is to say, "We have issues, too.
13 We have given them our language," but you don't
14 see it here because we don't -- I think we agree
15 that that wasn't the place for it.

16 MR. SRINIVASA: Ms. Cathcart?

17 MS. CATHCART: Yes.

18 MR. SRINIVASA: When you have a DC
19 power panel, one DC power panel as required for
20 each application, and they say 50-ampere, is the
21 bar sized for 50 amps? What does it mean?

22 MS. CATHCART: I don't know,
23 Judge.

24 MR. SRINIVASA: I think this is
25 one issue -- well, we can't get ahold of

1 MR. SRINIVASA: -- will be
2 deleted. Okay. "DC power panel is designed to
3 terminate up to a maximum of 50 amps per lead."
4 You agree that's fine?

5 MS. PENG: "Optional" at the top.

6 MS. MUDGE: Now, is it possible
7 for us to go offline and talk real quickly about
8 20.7 and see if we can shortchange any --

9 MR. SRINIVASA: Sure. Let's go
10 off the record for a while.

11 (Off the record discussion)

12 MR. SRINIVASA: Okay.

13 MS. PENG: On Paragraph 20.7, we
14 are reinserting the term "optional" to indicate
15 that it's optional as to who provides the panel,
16 either Southwestern Bell or the collocator. The
17 parties have agreed to strike the term
18 "redundant" and reinserting the sentence stating
19 "This rate element may be provided by the
20 collocator but is not required for RSM power
21 arrangement." period.

22 MR. SRINIVASA: Go to tools and
23 change maybe.

24 MS. MUDGE: We concur with that
25 change.

1 Mr. Turner either to get actual construction,
2 how it is constructed, the DC power panel.

3 MS. MUDGE: Your Honor, actually I
4 think if you look back at his explanation --
5 excuse me, I'm sorry. If you look at his
6 explanation, we were trying to clarify this at
7 the last hearing. I believe he actually talks
8 about that. I just don't have the transcript in
9 front of me, but I believe he talks about that
10 specifically, Your Honor.

11 MR. SRINIVASA: Let's take five
12 minutes off. We need to check something. Let's
13 go off the record.

14 (Brief recess: 2:15 p.m. to 2:30
15 p.m.)

16 MS. PENG: What we are going to do
17 now is type in some language that Southwestern
18 Bell had originally proposed to replace the 20.6
19 language. Don't do it yet -- and then rates and
20 charges as found in Paragraph 21.6. And up at
21 the top of the heading it would say "optional."

22 MS. MUDGE: We agree.

23 MR. SRINIVASA: So the
24 highlighted --

25 MS. MUDGE: -- will be deleted.

1 MR. SRINIVASA: Okay.

2 MS. MUDGE: On 20.8, Your Honor,
3 we will -- we concur -- Southwestern Bell has
4 made a proposed change, and they have new
5 language that the only thing we would like to
6 suggest -- this is language that we got Friday
7 afternoon.

8 This is language -- this now addresses
9 AC power consumption. And it says "CEV, huts
10 and cabinets." This section also, however,
11 relates to RSM central office arrangements.

12 So all we would propose is for the
13 title -- for it to read "AC power consumption,
14 CEV, huts and cabinets, and RSM arrangements."

15 MS. PENG: We don't have a problem
16 with that.

17 MR. SRINIVASA: Also, don't we
18 have a rate for caged collocation, AC power
19 consumption?

20 MS. MUDGE: Yes, sir. However, as
21 we pointed out in 20.5 under the DC power
22 consumption, we have noted that there is DC and
23 AC elements, and that's consistent with then
24 what we have on the rates.

25 MR. SRINIVASA: So \$2.12.

JOINT COMPLAINANTS

EXHIBIT 12

**PUCT Docket No. 21333
Order Approving Revised
Arbitration Award
June 7, 2001**

PUC DOCKET NO. 21333

PROCEEDING TO ESTABLISH	§	PUBLIC UTILITY COMMISSION
PERMANENT RATES FOR	§	
SOUTHWESTERN BELL	§	
TELEPHONE COMPANY'S	§	OF TEXAS
REVISED PHYSICAL AND VIRTUAL	§	
COLLOCATION TARIFFS	§	

ORDER APPROVING REVISED ARBITRATION AWARD

This Order approves the Revised Arbitration Award¹ along with its attachments (Award) issued in this proceeding on April 12, 2001. Further, this Order approves the clarifications and modifications made to the Award by the Commission at the May 24, 2001 Open Meeting.

I. Jurisdiction

Pursuant to the Federal Telecommunications Act of 1996,² incumbent local exchange carriers (ILECs) have the duty "to provide, on rates, terms, and conditions that are just, reasonable, and nondiscriminatory, for physical collocation of equipment necessary for interconnection or access to unbundled network elements (UNEs) at the premises of the local exchange carrier, except that the carrier may provide for virtual collocation, if the local exchange carrier demonstrates to the State commission that physical collocation is not practical for technical reasons or because of space limitations." Moreover, the FTA states that a "State commission shall establish any rates for interconnection, services, or network elements and provide a schedule for implementation of the terms and conditions by the parties to the agreement."³ Accordingly, in April 1999,

¹ The Arbitrators issued an initial Phase 1 Award on March 2, 2001. The Revised Arbitration Award supersedes the initial Arbitration Award.

² Telecommunications Act of 1996 § 3, 47 U.S.C.A. § 252 (West 1991 & Supp. 2000) (FTA § 252).

³ FTA §§ 252(c)(2) and 252(d)(1).

Southwestern Bell Telephone Company (SWBT) entered into a memorandum of understanding (MOU) in Docket No. 16251, committing to revisions in its Physical and Virtual Collocation Tariffs, as part of the investigation into SWBT's application for entry into the in-region interLATA long-distance market (271 proceeding).⁴ On September 8, 1999, the instant proceeding was initiated to implement the commitments in the MOU in Project No. 16251 by establishing permanent physical and virtual collocation tariffs for SWBT. The Commission finds that the Award, including the clarifications and modifications discussed in greater detail in the sections that follow, is consistent with the requirements of §§ 251 and 252 of the FTA.

II. Background

In March 1998, in Project No. 16251 SWBT filed its initial application for entry into the in-region interLATA long distance market. In May 1999, SWBT filed its Proposed Physical and Virtual Collocation Tariffs (Tariffs) pursuant to Public Utility Commission of Texas (Commission) Orders issued in that proceeding.⁵ On April 29, 1999, the Commission approved an MOU submitted by SWBT. The MOU contained several commitments by SWBT to implement the Commission's recommendations that had not yet been met by SWBT, including revisions to the Tariffs. In Order No. 52 in Project No. 16251, the Commission modified the proposed tariff language.⁶ In addition,

⁴ See *Investigation of Southwestern Bell Telephone Company's Entry Into the Texas interLATA Telecommunications Market*, SWBT's Memorandum of Understanding at App. B, Project No. 16251 (April 26, 1999) (MOU).

⁵ *Investigation of Southwestern Bell Telephone Company's Entry Into the Texas interLATA Telecommunications Market*, SWBT's Notice of Intent to File Section 271 Application for InterLATA Authority in Texas, Project No. 16251 (March 2, 1998) (*SWBT Initial Application*); *Investigation of Southwestern Bell Telephone Company's Entry Into the Texas interLATA Telecommunications Market*, SWBT's Virtual And Physical Collocation Tariffs, Project No. 16251 (May 13, 1999) (*Physical and Virtual Collocation Tariff*); see generally *Investigation of Southwestern Bell Telephone Company's Entry Into the Texas interLATA Telecommunications Market*, Order No. 52 Approving Revisions to Physical and Virtual Collocation Tariffs, Project No. 16251 (September 8, 1999) (Order No. 52); *Investigation of Southwestern Bell Telephone Company's Entry Into the Texas interLATA Telecommunications Market*, Order No. 54 Approving Additional Revisions to Physical and Virtual Collocation Tariffs at 2-3, Project No. 16251 (September 22, 1999) (Order No. 54).

⁶ See generally Order No. 52; *Investigation of Southwestern Bell Telephone Company's Entry Into the Texas interLATA Telecommunications Market*, SWBT's Final Comments and Proposed Language for Inclusion in the PIA, Project No. 16251 (September 8, 1999) (SWBT Final Proposed PIA).

the Commission approved, on an interim basis, rates and charges established in the Tariffs.⁷

The Commission determined that these interim rates would be subject to true-up in a future proceeding. The Commission established this cost proceeding in September 1999 to determine permanent rates and rate elements, as well as additional rate elements, rates, terms and conditions for microwave systems and transmission, and interconnection arrangements for interfaces operating at speeds greater than DS-3 through Digital Cross Connect Systems (DCS). Based on the permanent rates approved in this proceeding, the Commission will order the refund or surcharge of rates, as appropriate.

The Commission ruled in Order No. 52 that cost studies for the permanent rates should be submitted in conformance with the AT&T/WorldCom model.⁸ The Commission also concluded that SWBT and the competitive local exchange carriers (CLECs) could modify the AT&T/WorldCom model to the extent necessary to provide support for rate elements not included within the model.

In September 1999, SWBT filed a Motion for Reconsideration in Project No. 16251 requesting the Commission to allow SWBT to use both the AT&T/WorldCom model and a newly presented SWBT model. The Commission denied SWBT's Motion for Reconsideration, and reaffirmed its earlier ruling that the AT&T/WorldCom model should be the only model used in this proceeding.⁹ However, the Commission did agree that SWBT should be allowed to present inputs from the SWBT model where the AT&T/WorldCom model did not appear to capture costs that were properly attributable to the collocating parties. The Commission found that, to the extent the

⁷ Order No. 52 at 3.

⁸ *Investigation of Southwestern Bell Telephone Company's Entry Into the Texas interLATA Telecommunications Market*, Revised Texas Collocation Cost Model, Rate Comparisons, and Revised Portions of Physical Collocation Tariff Filed on Behalf of AT&T and MCI WorldCom (July 2, 1999) (AT&T/WORLDCOM model).

⁹ *See Proceeding to Establish Permanent Rates for Southwestern Bell Telephone Company's Revised Physical and Virtual Collocation Tariffs*, Order Ruling on Motion for Reconsideration on Collocation Cost Model, Docket No. 21333, (January 14, 2000) (Order on SWBT's Cost Model Motion for Reconsideration).

AT&T/WorldCom model did not address all the items in the Commission's orders on collocation, the parties were allowed to make necessary modifications.¹⁰

III. Procedural History

The parties in this proceeding are: Southwestern Bell Telephone Company (SWBT); AT&T Communications of the Southwest, Inc. (AT&T); e.spire Communications, Inc. (e.spire); the CLEC Coalition (the Coalition); Level 3 Communications (Level 3); DIECA Communications Company d.b.a. Covad Communications Company (Covad); Rhythms Links, Inc. (Rhythms); BroadBand Office Communications, Inc. (BroadBand); WorldCom, Inc. (WorldCom) f.k.a. MCI Telecommunications Corporation (MCI); and MGC Communications, Inc. d.b.a. Mpower Communications Corp. (Mpower).¹¹

A hearing on the merits was conducted on September 26 through 28 and on October 3, 2000. On September 22, 2000, unable to agree to a decision point list (DPL) on all issues, the parties filed a joint DPL on general issues and competing attachments or "Attachment As" regarding modifications/corrections to the Collocation Cost Model (CCM).

On March 2, 2001, the Arbitrators issued their Phase I Award. On March 14, 2001, the Arbitrators issued an Order clarifying the Arbitrators' Phase I award. On March 21, 2001, a hearing was held to discuss the CCM inputs based on the Arbitrators' decisions in the Phase I Arbitration Award. The Revised Arbitration Award with its Attachments (Award) was filed on April 12, 2001, thereby replacing all previous awards or clarifying orders. On May 4, 2001, the Joint Physical and Virtual Collocation Compliance Tariffs (Tariffs) were filed. The parties filed their comments on May 7, 2001. On May 9, the Coalition and AT&T/WorldCom filed joint reply comments (CLECs' Joint Reply). Similarly, SWBT filed its reply comments on May 9, 2001.

¹⁰ *Id.*; Open Meeting Tr. at 40-55 (December 1, 1999).

¹¹ AT&T, e.spire, the Coalition, Level 3, Covad, Rhythms, BroadBand, WorldCom, MCI, and Mpower are collectively referred to as "CLECs."

On May 11, 2001, the Arbitrators filed a memorandum and provided recommendations relating to the issues that continued to be contested by the parties. With the exception of the contested issues set forth below, the Arbitrators have reviewed the Tariffs filed and agreed to by the parties and determined that the Tariffs are in conformance with the Award. At the May 24, 2001 Open Meeting, the Commission considered and approved the Award along with the modifications as further discussed in this Order.

IV. Modifications to the Revised Arbitration Award

A. Recovery Methodology for Up-Front Collocation Costs

The Commission affirms the Award and finds that certain costs associated with the provisioning of collocation space shall be recovered by SWBT as a monthly recurring charge. The classification of assets into four categories in conjunction with the 75% occupancy factor strikes a reasonable balance in opening the market to competition and permitting the ILEC to recover its costs. However, the Commission is compelled to address SWBT's concerns regarding cost recovery and the possibility of CLECs vacating collocation space without subsequent collocators to use the same facilities. In the event that the occupancy factor at SWBT's premises drops below 75%, SWBT may request that the Commission consider implementing a revision to the cost recovery mechanism.¹²

B. Roof Rental Rate

The Award concluded that "the roof rental rate equivalent to the rental rate of one (1) equivalent rack space or nine (9) square feet of floor space is appropriate."¹³ However, each of the parties asserted that it was improper to place a limitation of nine (9) square feet of space on the rooftop rental. In their Memorandum, the Arbitrators clarified that a space limitation was not intended and recommended that the parenthetical "not to exceed 9 square feet" be removed from the relevant portion of the Tariff relating to

¹² Open Meeting Tr. at 48-49 (May 24, 2001).

¹³ Award at 95.

rooftop rental.¹⁴ The Commission affirms the Arbitrators' recommendation and concludes that the removal of the phrase "not to exceed 9 square feet" is appropriate.

C. Rooftop or Premises Space Definition

The parties claimed that the Award improperly included thirteen (13) additional types of equipment and services within the rooftop rental element. SWBT contended that all of the additional items should be charged as custom work charges. SWBT asserted that including these items within the rooftop rental space would deny SWBT recovery of costs for these services.¹⁵ The CLEC Coalition and AT&T/WorldCom argued that all thirteen items should be excluded from the definition of rooftop or premise space rental and the rate should be changed to zero.¹⁶ After considering the parties' comments, the Arbitrators concluded that it would be appropriate to allow custom work charge on the rare occasions where a collocater requires SWBT's assistance to obtain necessary licenses or permits related to microwave arrangements or when extraordinary circumstances arise for which there is not a specific rate provision.¹⁷

The Commission affirms the Arbitrators' recommendation and orders the removal of the following six (6) items from the definition of rooftop or premises space: assistance in obtaining license, work orders to assist with permits and easements; roof conduit from base of antenna to hatch; racking installed from base of antenna to hatch; other rooftop exterior services, and all associated support equipment and charges not specifically identified or enumerated relating to microwave collocation.¹⁸ The remaining seven (7) types of equipment and services shall remain within the rooftop rental element as follows: hatch maintenance; access feasibility; roof location determination; application review; corporate real estate, review of application; and implementation of authorizations.

¹⁴ Arbitrators' Memorandum at 11.

¹⁵ SWBT Comments at 22-24.

¹⁶ CLECs' Reply at 19.

¹⁷ Arbitrators' Memorandum at 12-14.

¹⁸ *Id.* at 14.

D. Safety and Security Costs

In its comments, SWBT argued that safety and security costs were calculated incorrectly in the CCM. Specifically, SWBT asserted that the formula used in the CCM multiplied the input by 0.80 and that the input amount should have been \$14,174.¹⁹ The CLECs contended that safety and security costs were calculated correctly.²⁰ The Arbitrators agreed that the Revised Award amount of \$11,339.20 for safety and security was input incorrectly into the CCM. The formula used in the CCM erroneously multiplied the input of \$11,339.20 by .80. The Arbitrators had already derived the proper amount by taking 80% of \$14,174.²¹ This meant that SWBT would receive only 64% of the actual costs. The Commission affirms the Arbitrators' recommendation and concludes that the Award should be modified to reflect the correct CCM input amount of \$14,174, resulting in a final safety and security cost of \$11,339.20.

E. Cable Entrance Opening for Adjacent On-Site Collocation

SWBT argued that, because Paragraph 21.26 of the Tariffs lists the rates for the cable entrance wall opening, a rate element description for the cable entrance wall opening should appear in corresponding Paragraph 20.26.²² SWBT further contended that any proposal by AT&T/WCOM to eliminate the rate for cable entrance opening at this stage in the proceeding was ill timed and should have been raised during the hearing.²³

The CLEC Coalition and AT&T/WorldCom requested that the Commission delete the charge for and reference to cable entrance opening from Section 21.26 of the Tariff. Specifically, the CLECs maintained that, in light of the Commission's adoption of a distance of 25 feet between a building and an adjacent on-site structure, the cable

¹⁹ SWBT Comments, Attachment A at 24.

²⁰ CLECs' Joint Reply at 20.

²¹ *Id.*; SWBT's Attachment A at 24.

²² SWBT Comments at 26-27.

²³ *Id.* at 28

entrance costs and wall opening were removed and replaced with SWBT's cost per linear foot of \$139.24 for the conduit.²⁴ For this reason, the CLECs insisted that the Commission reject SWBT's proposal to add a description for cable entrance opening to Paragraph 20.26.

The Arbitrators clarified that the conduit costs include the cost associated with the wall opening.²⁵ Specifically, the cost is based on SWBT's description of constructing 25 feet of an underground duct bank, which consists of six (6) four-inch PVC conduits with concrete encasements.²⁶ As a result, the Arbitrators recommended that the Commission reject SWBT's request to add a rate element description to Paragraph 20.26.²⁷ The Arbitrators further clarified during the Open Meeting that Paragraph 21.26 should be modified by deleting the reference and rate for cable entrance wall opening.²⁸

The Commission affirms the Award and concludes that a rate element description for the cable entrance wall opening should not be added to Paragraph 20.26. Similarly, the Commission adopts the Arbitrators' recommendation and finds it appropriate to delete from Paragraph 21.26, the existing cable entrance opening reference and rates that indicate the charge of \$920.61 for DC power cable wall opening and the charge of \$774.88 for fiber entrance wall opening.

²⁴ CLECs' Joint Reply at 20.

²⁵ Arbitrators' Memorandum at 16.

²⁶ *Id.* at 15-16.

²⁷ *Id.*

²⁸ Open Meeting Tr. at 58-60 (May 24, 2001).

F. Unit of Measure for Adjacent On-Site Conduit

SWBT argued that the proper unit for this rate element is "per conduit" as indicated by SWBT's evidence supporting the calculation of this rate.²⁹ The Coalition and AT&T/WorldCom contended that the proper unit for this rate element is a "per request" basis. After considering the parties' comments, the Arbitrators recommended inserting additional language to Paragraph 20.26 in order to reflect a "per duct bank" basis that is comprised of six, four-inch PVC conduits, each 25 feet long.³⁰ The Commission concludes that Paragraph 20.26 of the Tariff shall be modified in accordance with the Arbitrators' recommendations.

G. Double Recovery of Sales Tax

AT&T/WorldCom contended that the Award allows a double recovery of sales tax for partitioning, site conditioning, and safety and security costs. Specifically, the Award's use of certain SWBT costs and the possible development of costs from R.S. Means³¹ allow for double recovery by failing to recognize that the CCM also applies a Commission established sales tax factor to recover these costs.³² SWBT agreed that adjustments would be appropriate to the extent that inputs were based on SWBT's cost calculations that already took sales tax into account.³³

Although all parties agreed in principle that double recovery should be avoided,³⁴ no conclusive determinations have been made as to which inputs, if any, resulted in a double recovery of sales tax. As such, the Commission finds it appropriate to delegate to the Arbitrators the administrative authority to review the rates as approved in this Order and to ascertain whether or not any double recovery exists. To the extent that there has been a double recovery of sales tax, the Arbitrators shall revise these rates consistent with

²⁹ SWBT's Comments at 28.

³⁰ Arbitrators' Memorandum at 16.

³¹ R. S. Means Building Construction Cost Data and R. S. Means Electrical Cost Data (2000).

³² AT&T/WorldCom Comments at 11.

³³ SWBT's Reply at 4.

this Order and shall file a memorandum in accordance with P.U.C. PROC. R. 22.305(f), that notifies the parties of any such changes.³⁵

V. Commission Findings

1. Section 252(b)(1) provides that if an ILEC and CLEC cannot successfully negotiate rates, terms and conditions in an interconnection agreement, either of the negotiating parties "may petition a State commission to arbitrate any open issues."
2. The Commission is the state regulatory body responsible for arbitrating any open issues relating to implementing the rates, terms, and conditions for collocation pursuant to the FTA.
3. The Commission has reviewed the Revised Arbitration Award and the pleadings and comments filed by SWBT, AT&T/WorldCom, the CLEC Coalition and the Arbitrators.
4. The Commission finds the Award, as modified herein, is consistent with the requirements of §§ 251 and 252 of the FTA.
5. The Award is consistent with FTA § 251(c)(6), which requires an ILEC "to provide, on rates, terms, and conditions that are just, reasonable, and nondiscriminatory, for physical collocation of equipment necessary for interconnection or access to unbundled network elements (UNEs) at the premises of the local exchange carrier, except that the carrier may provide for virtual collocation, if the local exchange carrier demonstrates to the State commission that physical collocation is not practical for technical reasons or because of space limitations."

³⁴ *Id.* at 12.

³⁵ Open Meeting Tr. at 65 (May 24, 2001).

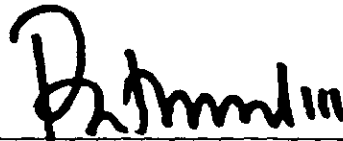
6. The Commission finds the Award and its modifications are consistent with Subchapter P of the Commission's procedural rules.

VI. Ordering Paragraphs

1. The Award and specific language in the Tariffs implementing the Award are approved, as modified and clarified by this Order.
2. In accordance with P.U.C. PROC. R. 22.309 and Section IV.G., the Commission orders all parties to file revised, signed physical and virtual collocations tariffs that have been modified in accordance with the rulings in this Order. Said revisions shall be filed by the parties no later than ten (10) days from the date the Arbitrators' memorandum is filed pursuant to Section IV.G of this Order.

SIGNED AT AUSTIN, TEXAS the 4th day of June 2001.

PUBLIC UTILITY COMMISSION OF TEXAS

A handwritten signature in black ink, appearing to read "Pat Wood, III", written over a horizontal line.

PAT WOOD, III, CHAIRMAN

A handwritten signature in black ink, appearing to read "Brett A. Perlman", written over a horizontal line.

BRETT A. PERLMAN, COMMISSIONER