

I N D E X

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EXHIBITS - VOLUME 8

12

NUMBER

ID. ADMTD.

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23 (Continental) Ohio News Release
 March 1, 1996, re Settlement
 Terms for Interconnection
 Contract

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P R O C E E D I N G S

(Hearing reconvened at 12:40 p.m.)

(Transcript follows in sequence from
Volume 7.)

NINA W. CORNELL

resumed the stand as a witness on behalf of MCI Metro
Access Transmission Services, Inc. and, having been
previously sworn, testified as follows:

CONTINUED DIRECT EXAMINATION

BY MR. MELSON:

Q Dr. Cornell, would you please summarize your
direct and rebuttal testimony?

A Yes.

CHAIRMAN CLARK: We didn't have any other
exhibits?

MR. MELSON: No. That was another copy of
the resume attached to one of the other pieces of
testimony.

CHAIRMAN CLARK: Thank you.

COMMISSIONER JOHNSON: Let me make sure I
got the provisions that we were going to strike
correct. That was in the -- she had two sets of
rebuttal testimony. In the February 20th, you weren't
striking anything from that?

MR. MELSON: No, February 20th is completely

1 in. It is the January 26 that a big piece is lopped
2 out of.

3 COMMISSIONER JOHNSON: Okay, thank you.

4 A My -- shall I go ahead and summarize?

5 CHAIRMAN CLARK: Yes, go ahead.

6 A Thank you.

7 My direct testimony addresses primarily,
8 although not exclusively, the issue of the appropriate
9 interconnection charge for interconnection of
10 competing local exchange carriers. I want to come
11 back to what I said then, which has not changed from
12 what I said in the case against BellSouth, which is
13 that you really should order mutual traffic exchange.

14 Why? It is the least cost method of
15 providing for interconnection. It is the method,
16 moreover, that brings by far the biggest benefits to
17 end users, and that's something we should not lose
18 sight of. It will not create, it cannot create,
19 pressures for an upward spiral in local exchange rates
20 now or after whatever current price cap plans are up
21 for renewal or re-examination.

22 Another reason why you should adopt it is
23 that it is neutral with regard to the technology and
24 architecture of entrants. You have already heard this
25 issue of if there's only one switch of the entrant, is

1 it an end office switch or a tandem? You don't have
2 to answer that question if you use mutual traffic
3 exchange.

4 Finally, it really does save costs for a
5 measurement system. Particularly, it saves upward
6 cost pressure to keep on moving to fancier and fancier
7 measurement systems. And I'm prepared to explain that
8 if you would like to hear it.

9 If you do not use mutual traffic exchange,
10 which I hope very much you will, you should charge --
11 you should allow the incumbent local exchange carriers
12 to charge no more than the average TSLRIC of
13 terminating a call.

14 I don't want to repeat what's already in the
15 record about how you institutionalize costs. What you
16 really institutionalize is prices and an amount in
17 those prices that at one time was a recovery of a cost
18 that may have now gone away because somebody has
19 become more efficient. But the market cannot push
20 that out of the price if you put anything else above
21 the direct TSLRIC cost in that price.

22 I would point out that anything higher not
23 only is bad for consumers, which is what I was just
24 talking about, but it creates an artificial barrier to
25 entry. So it is the second whammy at the consumers,

1 if I can put it that way, that they are now deprived
2 of as much competitive pressure, not just directly in
3 the rates but the ability of firms to even come in and
4 apply pressure.

5 Finally, anything higher will add to the
6 local exchange rates as the pressure for imputation
7 builds in order to try to allow for the possibility of
8 entry.

9 None of these are good for consumers. None
10 of them are necessary if you use mutual traffic
11 exchange.

12 I want to emphasize when I talk about asking
13 if you won't use mutual traffic exchange when I urge
14 you that you not set the rate any higher than average
15 total service long-run incremental cost I am not
16 telling you to do that for all prices.

17 This is a very unique situation, it is a
18 very unique industry -- and maybe "very unique" is
19 unnecessary or redundant, unique is unique. But there
20 are very few other instances where you have essential
21 monopoly input functions that must be supplied by one
22 firm in the market to other firms in the market.

23 Local interconnection is such an essential
24 monopoly input function. Yes, all firms must supply
25 it to each other. But when you start in a market

1 where one firm has 100% of the market, it has
2 everything and everybody else is an entrant trying to
3 make their way in, the ability to use the essential
4 monopoly input function in an anticompetitive manner
5 to prevent that entry resides with the incumbent who
6 has 100% of the market. That's just fact.

7 It is for that reason that you have got to
8 look at this not as customers. The ALECs, to use the
9 term that's used here, are not "customers" in the
10 normal sense of the incumbents, or vice versa. This
11 is a mutual dependency in order to have a competitive
12 market; and to have it bring the biggest benefits to
13 consumers, you need to get those prices as low as
14 possible.

15 Mutual traffic exchange does that, it covers
16 costs, it pays back everybody by paying in kind for
17 what they use.

18 Under no circumstances should you set
19 switched access rates as they currently are as the
20 price for local interconnection. If you want to use a
21 TSLRIC price for local interconnection and then set
22 switched access equal to that, that's fine. In fact,
23 that's good. But the other way around is very
24 damaging for any possibility of local competition.

25 That was all I was going to say in summary

1 of my direct.

2 In terms of my rebuttal, I'll try to be even
3 briefer. Basically, my rebuttal testimony was
4 directed at two testimonies that were filed in direct,
5 one was by Dr. Beauvais and one was by Mr. Poag.

6 And I basically am urging you to reject
7 virtually all the proposals that Dr. Beauvais has
8 brought in front of you. I believe that his
9 measurement data when he rebuts me or says there's no
10 problem with the cost of measurement, he has told you
11 what he has discovered in the past to be the cost of
12 measuring local exchange traffic.

13 GTE does not propose to use a local exchange
14 interconnection, they propose to use switched access;
15 and he does not tell you what is the cost of GTE to
16 measure switched access traffic. In the jurisdictions
17 that I have been able to see both sets of numbers on
18 the same comparable basis -- that is, let's say, '94
19 to '94 comparison of cost data -- it has always been
20 cheaper to measure local than switched access. It's
21 suspicious.

22 He has the wrong view of a price squeeze and
23 the wrong definition of one.

24 He would impose additional and unnecessary
25 costs on entrants, all of which builds this upwards

1 spiral of local exchange rates and creates barriers to
2 entry, artificial barriers to entry.

3 And finally, his declining block tariff
4 structure proposal is a proposal that is absolutely
5 guaranteed to hinder entry. It is designed to ensure
6 that customers do not split their custom among
7 carriers so that they can try out with, say you have a
8 business customer who has ten lines, it is designed to
9 ensure that customer does not take one or two lines
10 and try an entrant but that it is a winner-take-all
11 kind of proposal.

12 Finally, my rebuttal testimony responds to
13 arguments that Mr. Poag made that opposed mutual
14 traffic exchange, and it is full of details as to why
15 I think he is wrong in his arguments.

16 Q Does that conclude your summary?

17 A Yes.

18 MR. MELSON: Could I ask one supplemental
19 question, Commissioner Clark? It is based on some
20 testimony given this morning and I think would aid in
21 the Commission's understanding.

22 CHAIRMAN CLARK: Dr. Connell, I'm going to
23 let him ask his question and give people the
24 opportunity to object to it. So please don't answer
25 quickly.

1 Q (By Mr. Melson) Dr. Cornell, I was going to
2 ask you: Assume an environment in which the
3 Commission has approved a per minute of use charge for
4 local termination. In that environment, would it be a
5 true statement that if traffic is in balance that the
6 possibility of a price squeeze has been eliminated?

7 MR. FONS: I'm going to object to the
8 question. In the first instance it has not been
9 attributed to any witness this morning. And the only
10 witnesses that have testified this morning are the
11 ALECs, there has been no LEC witness today; so all
12 this would be is to be bolstering testimony or
13 countering the testimony of another ALEC and show the
14 inconsistency.

15 CHAIRMAN CLARK: Mr. Melson.

16 MR. MELSON: I believe Dr. Cornell has a
17 different view on this question than a previous
18 witness has given and I believe it is important to get
19 her view on the record.

20 COMMISSIONER JOHNSON: What's the question?

21 MR. MELSON: If you are in a situation where
22 the Commission has established a per minute of use
23 rate, if traffic is in balance, does that
24 automatically eliminate the possibility of a price
25 squeeze? There was testimony this morning to the

1 effect that it does.

2 CHAIRMAN CLARK: Through cross examination?

3 MR. MELSON: Yes, ma'am.

4 CHAIRMAN CLARK: Mr. Melson, I think if it
5 is not covered in her direct or rebuttal that it is in
6 fact supplemental testimony and I don't think I can
7 allow it. It may come up, you may have the
8 opportunity to ask it on redirect.

9 MR. MELSON: Commissioner Clark, I
10 understand that is the strong custom at the
11 Commission. I believe as a matter of law I should be
12 entitled to rebut anything that has been said in the
13 proceeding, but I will abide by your ruling. I think
14 the Commission's practice has room for improvement.

15 CHAIRMAN CLARK: Is in error?

16 MR. MELSON: Yes, ma'am.

17 CHAIRMAN CLARK: Okay. Ms. Wilson.

18 MS. WILSON: I have no questions.

19 MR. CROSBY: No questions.

20 CHAIRMAN CLARK: Mr. Logan?

21 **CROSS EXAMINATION**

22 BY MR. LOGAN:

23 Q Good afternoon, Dr. Cornell.

24 A Good afternoon.

25 Q I have a few questions for you.

1 Dr. Cornell, would you agree with the statement that
2 telecommunications services should be priced
3 efficiently?

4 A Yes.

5 Q Are you familiar with the term "the
6 efficient component pricing rule"?

7 A The badly misnamed efficient component
8 pricing rule, yes.

9 Q Would the application of this efficient
10 component pricing rule result in efficient prices?

11 A Oh, no, absolutely not. That's why it is
12 badly misnamed.

13 Q Why is that so?

14 A Because the application of the rule -- and
15 maybe to make this have any intelligence, I should
16 tell what you the rule is.

17 It has been propounded as the purportedly
18 appropriate way to price an essential monopoly input
19 function when you move from a monopoly to a world in
20 which you have entry. And the rule was promulgated to
21 say you should price that essential monopoly input
22 function at its direct economic cost plus all of the
23 so-called contribution that the monopolist would lose
24 by virtue of making the input available.

25 And in its application by various proponents

1 of it, it has been, for example, offered to explain an
2 interconnection rate for local exchange carriers that
3 would have been some dollars per month per line that
4 they served plus the full application of switched
5 access charges. And that amount, the dollars per
6 month, were -- and I apologize that I don't remember
7 numbers well off my head, but it was in the \$20 to \$30
8 range. Because the claim was made that a business
9 customer would have created that much, quote,
10 "contribution" from local exchange, custom calling,
11 switched access attributable to that line, intraLATA
12 toll, and therefore the company should recover all of
13 that in the price of interconnection.

14 Well, I don't think it takes a lot of
15 imagination to realize that there is absolutely no
16 possibility of entry in that world. But worse than
17 that, from your standpoint, there's absolutely no
18 possibility whatsoever of challenging that level of
19 revenue recovery that is built into all of those
20 so-called lost contributions. They are completely
21 insulated from competitive pressure of any form
22 whatsoever.

23 In other words, the firm that was the
24 monopoly would recover all of its contribution,
25 so-called, and indeed might be better off going out of

1 business except for holding on to one line so it still
2 is providing interconnection and recovering the entire
3 quantity of contribution that it used to get when it
4 was providing 100% of market.

5 It is anything but efficient.

6 Q Okay. Dr. Cornell, are you aware of any
7 instance in which the efficient component pricing rule
8 has been used to set the price for interconnection?

9 A Yes. It was used in New Zealand after a
10 long and protracted court battle in which I did
11 participate and did oppose it. And the result was it
12 was set at that initially and there was no entry.

13 My understanding is that the New Zealand
14 government finally got tired of the interaction
15 between New Zealand Telecom and Clear Communications,
16 which was the would-be entrant, and threatened to rate
17 of return regulated telecom unless it backed off of
18 the use of efficient component pricing rule for
19 interconnection charge.

20 Q Dr. Cornell, you spoke of reviewing
21 Dr. Beauvais' testimony in this docket; is that
22 correct?

23 A Yes.

24 Q Have you had a chance to read his
25 deposition?

1 A Yes.

2 Q Would you agree or disagree with
3 Dr. Beauvais' statement in his deposition that saying
4 you believe in imputation is the same as saying you
5 believe in the efficient component pricing rule?

6 A No, and it is a wrong statement.

7 Q Why is that?

8 A Imputation is a statement that the price
9 floor for a service should be the price charged to the
10 entrant or to the dependent competitor for the
11 essential monopoly input function plus the remainder
12 of the costs or the costs for all of the nonessential
13 input functions, if I can put it that way, or the
14 nonmonopoly, I guess, would be the correct way. But
15 the price can be higher than that in the market.
16 That's just the price floor.

17 What the use of the efficient component
18 pricing rule is to translate directly into the price.
19 If the price in the market were to rise, it simply, if
20 you really believe in the efficient component pricing
21 rule, would cause the input price to rise; and so you
22 collapse the price to the price floor and it becomes
23 both the floor and the ceiling at the same time.
24 There's no ability for price to diverge from that.

25 Q Dr. Cornell, a few questions about

1 imputation. Do I understand your testimony correctly
2 that, in order to prevent price squeeze, the price
3 charged by a LEC for local service must cover the
4 imputed price of local interconnection charge to its
5 competitors?

6 A I'm sorry, could you repeat that?

7 Q Yes. Is it your testimony, I'm referring to
8 Pages 21 through 23 of your direct testimony, is it
9 correct that what you are saying is that, in order to
10 prevent a price squeeze, the price charged by a LEC
11 for local service must cover the imputed price of
12 local interconnection charge to its competitors?

13 A Yes. Plus the remainder of the cost of
14 supplying the service, yes. Otherwise you would have
15 no entry by an equally efficient firm.

16 Q And how would you define imputation when you
17 talk in those terms, price squeeze?

18 A Imputation means that the price charged to
19 the end user must recover -- where you have a single
20 price to an end user, if you have like toll, you would
21 have to say revenues from that very narrowly defined
22 service. But either the price must recover the price
23 or the revenues that the entrant would pay for the
24 essential monopoly input function, plus all of the
25 remainder of the costs that are incurred to provide

1 that service.

2 And as I say, you can do it either as a
3 revenue test in the case of, say, intraLATA toll where
4 each intraLATA toll service must recover it, or you
5 can do it as a price test in the case of local
6 exchange service, which in itself is already a bundle
7 of functions.

8 COMMISSIONER JOHNSON: Where do you describe
9 that in your testimony? I know you do, I just --

10 WITNESS CORNELL: Yes. In looking at my
11 testimony, I talk about it on Page 22, Line 24,
12 through Page 23, Line 9. I think I also talk about it
13 in my rebuttal, both with regard to Mr. --
14 Dr. Beauvais, I apologize, and Mr. Poag.

15 COMMISSIONER JOHNSON: Where you define
16 imputation?

17 WITNESS CORNELL: Actually, I define price
18 squeeze. And you prevent a price squeeze by having
19 imputation. So where at Page 23, Line 1, I say, "If
20 that monopoly supplier sets the price or prices at the
21 bottleneck monopoly inputs --"

22 COMMISSIONER JOHNSON: I'm sorry, where was
23 that again?

24 WITNESS CORNELL: In the direct, the
25 February 6 direct, Page 23, starting at the very end

1 of Line 1, the last two words of Line 1, "If that
2 monopoly supplier sets the price or prices at the
3 bottleneck monopoly inputs at a level such that its
4 end user price does not recover both the prices for
5 the monopoly inputs and the rest of the cost of
6 producing the end user service, a price squeeze
7 exists."

8 The way you prevent a price squeeze is by
9 imputation. So if you have --

10 COMMISSIONER JOHNSON: Hold up, I apologize,
11 I just can't find it in here where you were reading
12 from.

13 WITNESS CORNELL: On Page 23 of my
14 February 6 direct starting at the very end of Line 1
15 are the words, "If that."

16 COMMISSIONER JOHNSON: Okay, I was looking
17 in the wrong section. Okay.

18 WITNESS CORNELL: Through the first word on
19 Line 5, I have defined a price squeeze.

20 COMMISSIONER JOHNSON: Uh-huh.

21 WITNESS CORNELL: Literally, imputation is
22 the condition, the pricing constraint, on the
23 incumbent that eliminates the price squeeze. So
24 similarly, the proper price floor is a price that
25 recovers the price charged -- or prices if there is

1 more than one monopoly input function -- and the cost
2 of the rest of the inputs for that service.

3 That price floor, that is the sum of two
4 pieces. What they charge MCI Metro for termination
5 plus all the rest of their costs has got to be, if you
6 want there to be any chance of competition, you have
7 got to say that's the price floor for local exchange.
8 Otherwise, you create a price squeeze.

9 What you do when you have a price squeeze is
10 you are telling a firm that is just as efficient as
11 the incumbent, "Go away, we don't want you," which is
12 not good for consumers. But you are also telling a
13 firm that is more efficient, "You must take your
14 efficiencies and in effect spend them, compensating
15 for this price squeeze." And every bit of that
16 increased efficiency spent to compensate for a price
17 squeeze or any other artificial barrier to entry is an
18 amount of efficiency not able to go out and be offered
19 to consumers in the marketplace.

20 COMMISSIONER JOHNSON: Why -- this is kind
21 of interrupting in the middle of your question, sorry
22 about that, but it gets back to the question
23 Mr. Melson tried to ask.

24 Why would a usage rate formula not cure the
25 price squeeze problem? Particularly if the rate was

1 as some of the parties have suggested, the TSLRIC?

2 WITNESS CORNELL: If it is at TSLRIC and no
3 higher, it will mostly cure the price squeeze unless
4 you have some rates out there for some consumers that
5 are below cost. That's point one.

6 If it is higher than that, however, you
7 begin to move into a world in which you have
8 automatically created an artificial barrier to entry.
9 And I really would like to take two sentences to say
10 why.

11 COMMISSIONER JOHNSON: I would like to hear
12 it.

13 WITNESS CORNELL: It is very important to
14 remember whenever an entrant faces higher costs for
15 something than the incumbent, there's a barrier to
16 entry.

17 Barriers to entry can be natural, the market
18 creates that situation. If you buy in bulk, you pay
19 less per unit to the outside supplier. You then have
20 to incur costs in-house that the outside supplier no
21 longer -- for functions the outside supplier doesn't
22 supply to you. But that's okay.

23 But when you do that artificially through
24 any competitive behavior or through regulatory rules
25 that add costs that don't really exist in nature, so

1 to speak, you have created an artificial barrier and
2 made it harder for entry to take place.

3 And this is a market in which there are
4 plenty of natural barriers to entry, I just urge you
5 not to add to them.

6 COMMISSIONER JOHNSON: In your TSLRIC -- and
7 I guess generally TSLRIC, does that always include
8 return on capital?

9 WITNESS CORNELL: Yes, it does. It --

10 COMMISSIONER JOHNSON: What doesn't it
11 include? It doesn't include many common and shared
12 costs and any other contribution? Or what wouldn't it
13 include that you think the incumbents might want it to
14 include?

15 WITNESS CORNELL: Well, the incumbents would
16 like it to include as much as you will let them,
17 frankly.

18 I mean, the discussion about the attempt to
19 have interconnection at so many dollars a line plus
20 switched access came out of Maryland, that was the
21 original position of Bell Atlantic. And I have seen
22 this elsewhere, I might add.

23 What it does not include is costs that do
24 not vary because the service is offered. So all of
25 the costs that are left out of TSLRIC of

1 interconnection are costs that these firms would incur
2 anyway, that they would otherwise be recovering from
3 their end users anyway, if they recover them, if the
4 market lets them. There is nothing left behind that
5 is caused by offering interconnection that is not paid
6 for in a TSLRIC rate.

7 COMMISSIONER JOHNSON: Thank you.

8 Q (By Mr. Logan) Dr. Cornell, just a couple
9 more questions on imputation. Are you familiar with
10 Mr. Michaelson's testimony in this docket on behalf of
11 United?

12 A Yes, I am.

13 Q Are you familiar with his statement or
14 suggestion that any imputation test should not be
15 applied just to basic local service but should also be
16 applied in the aggregate to the costs and revenues for
17 providing all residential services or all business
18 services in any given exchange?

19 A Yes, I am.

20 Q Is it your opinion that Mr. Michaelson's
21 imputation test would be adequate to protect
22 competitors from price squeezes?

23 A No.

24 Q Okay. And why is that?

25 A It is totally deficient.

1 The problem with Mr. Michaelson's imputation
2 test goes back to what I tried to say a little bit
3 earlier, is that in essence it forces an entrant to do
4 one or more of at least two things. It is an
5 "either/or" or an "and," I'm not sure which.

6 One is if it is more efficient it may have
7 to use the efficiencies to make up for the price
8 squeeze on local. Or it's got to limit its marketing
9 attempts only to those customers who take the average
10 or above average of the whole panoply of services that
11 he throws into his imputation test. Because if they
12 try to compete for a customer who only takes basic
13 local exchange service, they will lose money, the
14 entrant will.

15 Not having the base of almost 100% from
16 which to play the averages that the incumbent at least
17 starts with, the entrant can't afford to take the
18 chance that when it puts its price list out there and
19 tries for customers that it only gets the customers
20 who take basic local exchange and nothing more. Any
21 entrant who is attractive to those customers under
22 Mr. Michaelson's rules is going to be driven out of
23 business again.

24 I think it's bad for consumers because you
25 deny consumers the benefit of whatever greater

1 efficiency may be sitting there. But you also deny
2 the so-called bottom end of the market the benefits of
3 competition.

4 If you keep artificially constraining
5 entrants only to compete for the high revenue
6 customers, you have limited who gets the benefits of
7 competition to the high revenue customers. You have,
8 of course, opened the world for the incumbents to come
9 screaming in and say, "See, they're cream skimmers."
10 I heard that term more times that ever I thought I
11 would have to deal with it. It's a dairy term, it
12 should stay there.

13 And they come in screaming and saying,
14 "Look, you should do all these things to punish them
15 because they're only going after high revenue
16 customers." Well, of course they are only going after
17 high revenue customers, you structured the market so
18 that's all they could have gone after in that world.

19 Once again, if you have a situation right
20 now where you have some customers whose rates do not
21 cover rates for basic exchange service, do not cover
22 the full cost of that service, you get around this
23 problem by mutual traffic exchange. Everybody can
24 compete for everybody; and now you let the market
25 fight it out rather than having who entrants can

1 compete for created out of the interconnection price
2 structure.

3 Q Dr. Cornell, turning to Page 17 of your
4 testimony, I think starting on Line 18, is it correct
5 that it is your opinion that you expect traffic
6 between LECs and ALECs generally to be in balance?

7 A Over time and particularly after there's
8 true number portability, yes.

9 Q Would it change your opinion if you learned
10 that traffic between a particular incumbent LEC and
11 neighboring LECs was out of balance along their EAS
12 routes?

13 A No, not in the slightest.

14 Q Why is that?

15 A Well, what you have -- and I speak with some
16 experience about small towns attached to big towns.
17 Not that my small town, which is miniscule, is
18 attached to anything.

19 But when you have a situation which you have
20 a big city which is where most of the doctors are and
21 a big city which is where most of the big shops are,
22 you can have an imbalance of traffic from the small
23 town to the big town because that's where the
24 businesses are.

25 When you take into account sort of that kind

1 of traffic pattern, as I say, it is not always in
2 balance; although, surprisingly, there are a number of
3 instances where it is or where it is very close.

4 It, however, is not what we are talking
5 about in this docket. We are talking about
6 overlapping markets, not adjacent markets. We are
7 talking about overlapping markets. And there it is a
• 8 much more likely circumstance as networks grow over
9 time it will come into balance, particularly if you
10 have true number portability, so that there is no
11 distortion of traffic going first to the original --
12 you know, the carrier that was the incumbent, or was
13 the original provider of service to the customer then
14 the number got ported using remote call forwarding,
15 which adds a distortion into this measurement of
16 traffic in terms of the balance. How much of it came
17 through the ported numbers? Who knows.

18 CHAIRMAN CLARK: Dr. Cornell, if you could
19 just follow up on that. I am not clear as to how
20 number portability affects the balance of traffic.

21 WITNESS CORNELL: Okay, let me try.

22 In a world with true number portability, a
23 customer can keep his or her telephone number even
24 though that customer goes to a different service
25 provider. And so they take all of their lines, if

1 they want to. If they decide, "I'm going to use MCI
2 Metro, or Time Warner, or whomever, I'm going to take
3 all my lines. I've tried them out with two and now I
4 want all."

5 And when somebody from either
6 Sprint-United/Centel, or if you are in GTE territory,
7 GTE, who has remained with GTE and calls them, the
8 call goes directly over to Time Warner and MCI Metro,
9 whoever was the new carrier. In a world before you
10 have true number portability, that call first goes to
11 Sprint-United, because that's who gave out the number
12 originally. And that happens even when the person
13 dialing the number is already an MCI Metro customer,
14 for example, sticking with MCI Metro.

15 So that a call that should have been
16 entirely terminated within the MCI Metro network, one
17 MCI Metro customer to another, because of the use of
18 RCF for remote call forwarding, goes over first to the
19 Sprint-United, let's say, network and then back to MCI
20 Metro. So you begin in a world of multiple firms to
21 see these additional traffic flows that involve one
22 flow to the incumbent local exchange provider, one
23 flow back to the carrier now serving the ported
24 number. And you can have traffic flows where it
25 starts with an MCI Metro customer and ends with a Time

1 Warner customer. And you've put Sprint-United in the
2 middle in my example due to this remote call
3 forwarding. Well, that's going to, if you pardon my
4 use of the term, mess up what the real traffic flows
5 are in terms of where the call started and where it
6 finished if you try to measure them in a measurement
7 capacity of measuring it on the trunks coming in and
8 the trunks going out.

9 CHAIRMAN CLARK: So you are saying that it
10 will show as traffic terminating on a Sprint --
11 terminating on Sprint for which they should get
12 compensation when, in fact, if you didn't have to do
13 number portability it would just show it terminating
14 on Time Warner?

15 WITNESS CORNELL: Yes. I'm not -- I don't
16 know precisely, you made the statement "for which they
17 should be compensated," and, of course, I don't --

18 CHAIRMAN CLARK: Well that's their argument.

19 WITNESS CORNELL: That's their argument,
20 yes.

21 CHAIRMAN CLARK: I guess is that a problem,
22 though, when you have -- if you only have one ALEC? I
23 can see where there's a problem with two because it
24 will show it as -- or will it, in fact, show it as
25 terminating on Sprint as opposed to terminating on

1 Time Warner?

2 WITNESS CORNELL: I would think it would
3 show it as terminating on Sprint. That is, let's
4 assume you have an MCI Metro customer and a Time
5 Warner customer, and the Time Warner is calling the
6 number that was originally assigned by Sprint-United
7 but it's an MCI Metro now, so it has been ported. It
8 will come in from Time Warner's network. I mean, Time
9 Warner isn't going to necessarily know that's a ported
10 number.

11 The customer is going to pick it up and dial
12 234-4567, whatever the number is, and it will come
13 across the trunk and terminate at the Sprint switch.
14 The Sprint switch will be where it is determined that
15 that was a ported number and then it will go on to MCI
16 Metro.

17 CHAIRMAN CLARK: But it seems to me because
18 it ultimately terminates somewhere else it's a wash.
19 Because they would have had to pay -- Sprint would
20 have had to pay terminating to Time Warner and --

21 WITNESS CORNELL: To MCI Metro, but it gets
22 it from Time Warner.

23 CHAIRMAN CLARK: Right.

24 WITNESS CORNELL: Well, it gets paid by Time
25 Warner and it pays MCI Metro, but it's not a wash

1 either to Time Warner or to MCI Metro.

2 CHAIRMAN CLARK: Well, they would have been
3 paying -- if not Sprint, they would have been paying
4 each other.

5 WITNESS CORNELL: Well, again, if you have
6 mutual traffic exchange --

7 CHAIRMAN CLARK: Well, wait a minute.
8 You're confusing me now. Because I'm just trying to
9 determine why that distorts traffic from being out of
10 balance and I'm having trouble seeing how number
11 portability distorts the balance of traffic.

12 WITNESS CORNELL: There are two reasons
13 actually that it distorts the balance of traffic. We
14 have been focusing on one; and I'll finish with it and
15 then go to the second.

16 In this particular instance, what you get is
17 an image of more traffic terminating, if I recall
18 correctly. I did the hypothetical as the Time Warner
19 customer is calling someone who is really a Metro
20 customer but it looks as if Time Warner is terminating
21 more minutes to Sprint and fewer minutes to MCI Metro.
22 Okay?

23 So there is a potential given that each of
24 these, if it is a per minute charge, each of these
25 charges is going to be set up, how many minutes do I

1 terminate to Sprint and how many terminate back? The
2 fact that you have now stuck one in as a terminating
3 minute to Sprint that should have been a terminating
4 minute to Metro can produce problems in that balancing
5 out; and similarly, the fact that it should have been
6 from Time Warner to Metro but it appears as a Sprint
7 to Metro, can you have distortions in that
8 relationship.

9 I can't sit here and draw you mathematics,
10 but it is possible.

11 CHAIRMAN CLARK: Okay. Let me see if I
12 understand correctly. What you are saying is if you,
13 in fact, have a per charge --

14 WITNESS CORNELL: Yes.

15 CHAIRMAN CLARK: -- then you will be making,
16 transferring, money. For instance, it may go from MCI
17 Metro to Sprint when the money should have actually
18 gone to Time Warner because that's who actually
19 terminated the number ported call?

20 WITNESS CORNELL: That's right. Or Time
21 Warner pays Sprint, Sprint pays Metro in the world
22 that you're describing where there is money changing
23 hands. But you have now incurred all of these
24 transaction costs for a payment which should have gone
25 directly from Time Warner to Metro.

1 CHAIRMAN CLARK: I guess what is confusing
2 me is I don't think it affects the balance of traffic.
3 It may have you changing money more times; but I don't
4 see how the traffic itself would be out of balance, it
5 causes the traffic to be out of balance.

6 WITNESS CORNELL: You would be right if
7 there were only two parties. But once you start
8 introducing more parties, you really have the
9 potential what would have been in balance between the
10 to two of them not showing up as balance.

11 You also have a second factor that I
12 haven't --

13 CHAIRMAN CLARK: Let me be clear. I think
14 among all of the parties you do have balance --

15 WITNESS CORNELL: That's right.

16 CHAIRMAN CLARK: -- among all of them. But
17 you may not have balance between two of them.

18 WITNESS CORNELL: That is correct.

19 CHAIRMAN CLARK: Because you have more than
20 one party.

21 WITNESS CORNELL: That is correct.

22 CHAIRMAN CLARK: Okay.

23 WITNESS CORNELL: The second problem with
24 the remote call forwarding number portability. It is
25 very necessary; I'm not trying to tell you not to do

1 that and, again, at rates that make sense. But
2 because it does produce problems with quality of
3 transmission, it is going to mean that some parties
4 won't want to use it and will -- instead some business
5 users may say, "We'll split our traffic. We'll keep
6 our original telephone numbers, keep half our lines
7 with the incumbent, and use the entrant only for
8 outgoing calls where the telephone number doesn't
9 matter." And now you really distort the pattern of
10 traffic flow.

11 CHAIRMAN CLARK: Okay.

12 WITNESS CORNELL: Unambiguously.

13 Q (By Mr. Logan) Dr. Cornell, just a couple
14 more questions. In economic terms, what is the cost
15 to an incumbent LEC terminating a local call on its
16 own network?

17 A It is average TSLRIC.

18 Q Now, if the incumbent LEC is required to
19 cover the imputed price of local termination in its
20 end user rates, isn't the implicit cost to the
21 incumbent LEC terminating a local call really higher
22 than the TSLRIC?

23 A No.

24 Q Why is that?

25 A The reason is that no matter what you do

1 with accounting costs you can't change what are
2 economic costs.

3 The cost to terminate a call is the cost to
4 terminate a call. You can require accounting
5 treatment of that higher price; but all you are really
6 doing is giving an accounting amount of money that's
7 available now for coverage of joint common, which is
8 the usual term but shared costs is a better phrase for
9 that. It is a real cost to the entrant who must pay
10 that price. It is an accounting benefit, in effect,
11 to the incumbent who must impute it but who genuinely
12 has those revenues to help pay for shared costs. The
13 entrant does not have them to pay for shared costs.

14 That's why imputation is not sufficient to
15 permit competition. It is absolutely necessary to
16 prevent a price squeeze but it is not a sufficient
17 protection. Pricing at TSLRIC is the only thing that
18 is sufficient protection; mutual traffic exchange is
19 the cheapest way to price at TSLRIC.

20 COMMISSIONER JOHNSON: You were asked the
21 question above, I think he asked you what the LEC's
22 cost was and you said average total long-run
23 incremental cost?

24 WITNESS CORNELL: That's right.

25 COMMISSIONER JOHNSON: Versus -- and I

1 thought you just changed it and said TSLRIC. Maybe it
2 would help me, if there's a difference, I don't know
3 them. So if you would explain that to me, that would
4 help for my edification.

5 WITNESS CORNELL: First, I am going to
6 apologize. I try not to but I tend to be sloppy.

7 TSLRIC is actually a kind of total cost
8 concept. It is the total cost of providing for -- the
9 total forward-looking cost for providing the service
10 in question. So if you are going to compare to it a
11 price or a rate, you really have to talk about a per
12 unit version of TSLRIC, which is really I said average
13 TSLRIC. When I talk about setting price at TSLRIC, I
14 really am meaning average TSLRIC.

15 COMMISSIONER JOHNSON: Okay. I thought they
16 were two different pricings. All right, thank you.

17 WITNESS CORNELL: If you set it at TSLRIC
18 you would have clearly barred entry.

19 COMMISSIONER JOHNSON: I got you.

20 WITNESS CORNELL: If you think about it.

21 COMMISSIONER JOHNSON: Okay.

22 MR. LOGAN: Thank you, Dr. Cornell. No
23 further questions.

24 CHAIRMAN CLARK: Mr. Horton?

25 MR. HORTON: Yes, ma'am, I think I have just

1 one.

2 **CROSS EXAMINATION**

3 BY MR. HORTON:

4 Q Dr. Cornell, do you advocate mutual traffic
5 exchange? Are you proposing that as a permanent plan
6 or as an interim solution in this proceeding?

7 A My proposal would be that it would -- I'm
8 sorry, neither, in a sense. That is, I cannot answer
9 that yes or no or one or the other.

10 I would advocate that you start with mutual
11 traffic exchange. If there is reason to believe there
12 is a real problem with it, let's say a year after true
13 number portability has been introduced, then I would
14 look at how far traffic is out of balance. If that
15 amount out of balance is sufficient to cover the
16 transactions cost of ordering some other proposal,
17 then I would suggest that a per minute rate at
18 TSLRIC -- average TSLRIC, thank you, Commissioner --
19 not higher, be substituted for mutual traffic
20 exchange. But I think it is really important to
21 examine those transaction costs before you delve into
22 it. It is not worth incurring all of them for
23 something that might only be \$1,000 a month or less.

24 MR. HORTON: Thank you, that's all I have.

25 COMMISSIONER JOHNSON: How do you feel about

1 if we were to determine that the traffic was out of
2 balance and say it was 30%. Say it was enough that it
3 would justify incurring those costs to do a usage
4 rate. How do you feel about then setting that rate
5 and making it retroactive for whatever that
6 out-of-balance-minutes cost?

7 WITNESS CORNELL: First of all, I feel very
8 opposed to retroactivity. Now, I realize -- after
9 yesterday's hearing I went back and I started playing
10 with numbers with my calculator to say, "Wait a
11 minute, what are we really talking about here?" And
12 so we started literally sort of sitting down and
13 saying what if, what if, what if, in terms of numbers.

14 And so I said I'm really opposed to
15 retroactivity because I do not believe in having a
16 world in which you are trying to open the doors to
17 competition and there's an unknown-sized ax hanging
18 overer somebody's head that suddenly two years into
19 entry I might get hit with a whopping liability for
20 which I have made no preparation in terms of the rates
21 I have charged my customers.

22 This is very important. One of the things
23 you must understand is even if traffic is in balance
24 over a period of time, if I might get hit with a
25 liability in Month One because Month One I'm out of

1 balance against me, so to speak, I have got to build
2 it into my rates. Because the fact I may get it in
3 Month 12 is irrelevant; I may be out of business
4 because I haven't met my cash flow obligations over
5 the course of those 12 months. So I have got to build
6 it into my rates and capture it now to pay it now even
7 if I will get it back in 12 months.

8 Just there's no way around it. The moment
9 you make a cash payment, you have put that in the
10 price floor of local exchange. Please do not think
11 otherwise. Balance, because balance is not absolute
12 automatic day-by-day an identity, which is the only
13 way you would not have it in the rate, you have got to
14 put that money aside to meet a possible obligation.
15 And the only way to do it is to charge the end user
16 for it. That's the only place you get the money.

17 COMMISSIONER JOHNSON: But that may be okay.
18 Because otherwise, if it is out of balance, someone
19 else is paying for it. Someone is paying for it;
20 someone's end user or someone is paying for that out
21 of balance if it is 30% or 40%. And if we find out
22 later it's 30% or 40%, then do we tell whoever that
23 party is, "Sorry, you can't recover it even though you
24 didn't cover your costs because it was so far out of
25 balance"? And they got that money from somewhere or

1 someone had to pay that lost revenue.

2 WITNESS CORNELL: Can I come back to my
3 musing with numbers yesterday? Because I would like
4 to put it in perspective.

5 I began to ask myself, "Okay, what if there
6 were 5 million minutes a month going from ALEC 1 to
7 the incumbent?" And I did admittedly apply a 10% out
8 of balance; I didn't go all the way up to 30, but you
9 can you modify these numbers. And I did write it down
10 because I told you I'm not good at remembering
11 numbers. So please bear with me.

12 Suppose it is 5% out of balance. That's
13 500,000 minutes. And I'm going to say let's assume
14 that it costs a quarter of a cent a minute real TS --
15 average TSLRIC to terminate a call. And that's in the
16 ballpark; there are nonproprietary numbers that are up
17 to approximately .3 cents, .4 cents; there are numbers
18 that are lower than that that are proprietary.

19 So let's say a quarter of a cent a minute.
20 That seemed to me on the high side of the numbers I've
21 seen in real costs to terminate. Okay? So 500,000
22 minutes times a quarter of a cent per minute means
23 that the company that was the recipient of more
24 traffic was out \$1,250.

25 Now, it does not seem to me that your job is

1 to say, "In order to capture \$1,250, we are to put
2 into place a whole panoply of costs that are way above
3 that just to deal with that." So the first thing I
4 would say is, one, why not retroactivity, until you
5 are up to a potential imbalance, for which, if it
6 existed, it is worth the costs, you should be saying,
7 "Forget it. We'll do mutual traffic exchange. It is
8 by far the cheapest."

9 Then I said to myself, "Okay, what gets you
10 to a point where you need this kind of to even think
11 about it?" Because the nice way to do this is not to
12 suddenly discover that for six years it has been out
13 of balance -- not that the LECs will let you get that
14 far, I will assure you of that. But to say, "Okay,
15 suppose this is real? What do we have to do?"

16 Well, obviously, if we are talking 5 million
17 minutes a month from an ALEC, and so 10% less than
18 that from the incumbent in this hypothetical I gave
19 you, I asked myself, "What is that?"

20 Well, let's assume -- which I think is a
21 reasonable assumption based on numbers I've seen --
22 that a business line generates approximately 1,000
23 minutes of local traffic a month. You would have to
24 have 5,000 business lines being provided by the ALEC
25 to produce -- assuming all they serve is business --

1 to produce 5 million minutes, if I have done my math
2 correctly, a month.

3 So it is clearly not worth it there. I
4 mean, and that produces -- at a 10% imbalance, that
5 produces \$1,250.

6 So what if you had 50,000 business lines
7 served by an ALEC, one ALEC. If it's spread out among
8 all, you're still back to the whole problem that
9 you're multiplying the cost to put in a measurement
10 system by the number of ALECs.

11 So I said, "What if you said there's some
12 minimum threshold, in effect, market share before I'm
13 going to worry about this problem?" Because anything
14 less than that is just not worth the transactions
15 cost; I'm making the cost of everything higher. This
16 is the old -- I don't know whether it is Benjamin
17 Franklin, but the old aphorism, it's penny wise and
18 pound foolish. You're spending a pound to save a
19 penny, and that's not worth it.

20 So I would suggest you really look hard at
21 saying that the amount of traffic that is going in one
22 direction between the incumbent and a single ALEC has
23 to be up to some minimum amount per month. 50 million
24 minutes is a good number because that just produces
25 12. If it is 10% out of balance, it produces \$12,500

1 | worth of missed costs, uncompensated costs, for
2 | termination.

3 | Before you let yourself be drawn back into
4 | this dispute -- and the reason is you slow the drive
5 | to put in all of this measurement stuff. And you
6 | allow the business to get going; you allow the market
7 | to get going; you have got a trigger point at which
8 | you are going to entertain evidence to the effect that
9 | it is out of balance; but you are going to let other
10 | places that aren't as sensible, as I think you have
11 | been in your BellSouth decision, get the cost of
12 | measurement down to a cost that's reasonable to incur.
13 | Or discover that it isn't reasonable to incur it and
14 | to say, "Forget it, we've decided this was a bad idea
15 | in the first place." And you won't have imposed it
16 | on consumers in Florida.

17 | COMMISSIONER JOHNSON: So you're saying --
18 | if I understood you, you're saying if we were to do
19 | something where we're looking at the situation where
20 | you are not in balance, we should do that on a
21 | ALEC-by-ALEC basis with respect to the LEC-to-the-ALEC
22 | in looking at that particular situation and seeing how
23 | much out of balance that was. And if it didn't meet
24 | the threshold, then we kind of -- we throw that one
25 | out and look at another ALEC; and if it doesn't meet

1 the threshold, throw that one out?

2 WITNESS CORNELL: I would do it slightly
3 differently. But it comes to, in terms of what you
4 have to do, it comes to the same thing but with less
5 cost all around. Because regulatory proceedings are
6 very costly.

7 And that is, I would say once any ALEC in
8 this market has gotten up to the point where they are
9 exchanging with the old incumbent at least X amount of
10 minutes a month of traffic, of local traffic, then we
11 will, if it is out of balance, you can come in. But
12 until then, it is not worth the transactions costs --
13 the cost of measurement, the cost of billing, the
14 extra cost of auditing -- that you will impose on the
15 entire system. So don't bother us with a statement
16 about in or out of balance until you are at least
17 seeing from one ALEC at least something like 50
18 million minutes a month of local traffic.

19 COMMISSIONER JOHNSON: Okay. I see what you
20 are doing, you are focusing on the minutes.

21 WITNESS CORNELL: That's, by the way, the
22 right way to focus on because then nobody has to
23 report whether they're doing CENTREX or PBX and how
24 many lines all that kind of stuff they are doing to
25 individual customers.

1 COMMISSIONER JOHNSON: If we did it that way
2 and didn't look at the totality, if there were a lot
3 of ALECs that were right under that threshold and if
4 those are not in balance, the cost to the LEC, the one
5 LEC because these are dealing with one LEC, could end
6 up being substantial and not recovered.

7 WITNESS CORNELL: I think if you draw your
8 threshold correctly, I have a couple of things to say,
9 which is, (a) not likely. I mean, \$12,500 of
10 uncompensated termination cost is not a big number in
11 this industry. We are not talking pain.

12 Two, if you have made it clear that the
13 alternative is going to be a rate at average TSLRIC,
14 nobody in this industry is not going to drive to keep
15 getting up their traffic numbers as fast as they can
16 convince customers, and so it isn't going to last very
17 long that anybody is hovering, if all you are dealing
18 with is a growth situation.

19 You are simply not dealing with a very long
20 period of time where this limps along. Now, if you
21 make it clear that the sky is the limit for the
22 interconnection charge, you have created a real
23 incentive to try to keep the number hovering right
24 below. But if you do it right and say the fallback,
25 if the traffic is out of balance and there's enough of

1 it to make this worth doing, is going to be average
2 TSLRIC -- we're not, you know, don't come in and
3 assume you can impose these huge, high interconnection
4 charges like you did with switched access -- you have
5 an entirely different dynamic and one that is you are
6 just simply not talking about anything that can last
7 long enough to matter.

8 So that, again, there's no need to think
9 about retroactivity, there's no need to be worried
10 about it, because it just isn't going to be sitting
11 there as this big sort of giant sucking sound, if I
12 can borrow from some other politician. It isn't
13 there.

14 COMMISSIONER JOHNSON: Thank you.

15 CHAIRMAN CLARK: I think we'll go ahead and
16 take a break until 20 minutes until 3:00.

17 (Brief recess.)

18

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19 CHAIRMAN CLARK: We'll call the hearing back
20 to order. And before we continue with cross
21 examination of Dr. Cornell, I have a press release
22 that Mr. Crosby has distributed and we also have some
23 information from Staff at Ohio regarding the Ohio
24 actions on interconnection.

25 MS. CANZANO: The legal director, Mr. Paul

1 Duffy, indicated to us that on Thursday, February 29,
2 the Ohio Commission brought in Ameritech and Time
3 Warner for what's equivalent to oral argument, which
4 was continued to the next day, to March 1. There was
5 no agreement reached and apparently they sent the
6 parties back for further negotiations.

7 No order was rendered and I guess the issue
8 is still pending.

9 CHAIRMAN CLARK: It seems to me that we
10 don't have an order that we can take official
11 recognition of. We have a press release. Unless it
12 is stipulated into the record without objection, it is
13 not something we can take official recognition of.

14 MR. CROSBY: I believe the parties may be
15 willing to stipulate, though, Madam Chairman.

16 MR. WHALEN: We have no objection to that
17 going in as long as it is recognized that it's what it
18 is, that is, a news release.

19 CHAIRMAN CLARK: Okay. We'll mark it as
20 Exhibit 23, and we'll admit it into the record without
21 objection. It will be the Public Utilities Commission
22 of Ohio News Release dated March 1, 1996, having to do
23 with settlement terms for interconnection contract.

24 (Exhibit No. 23 marked for identification.)

25 CHAIRMAN CLARK: Mr. Horton, I believe you

1 were next?

2 MR. HORTON: No, I have no further
3 questions.

4 CHAIRMAN CLARK: Mr. Rindler?

5 MR. RINDLER: I have no questions.

6 CHAIRMAN CLARK: Ms. Weiske?

7 MS. WEISKE: Thank you.

8 **CROSS EXAMINATION**

9 BY MS. WEISKE:

10 Q Good afternoon, Dr. Cornell.

11 A Good afternoon.

12 Q You said in response to Commissioner Johnson
13 that you had some concerns about the transactions
14 costs related to retroactivity?

15 A Yes.

16 Q Would you have those same concerns related
17 to a cap or do you view the retroactivity proposal she
18 asked you about as a cap? A cap on bill and keep, I'm
19 sorry.

20 A I always have problems and concerns about
21 the transactions costs that might come with a cap.
22 Again, my statement earlier to Commissioner Johnson
23 was that if the traffic going between a single ALEC
24 and the incumbent were high enough that you knew that
25 imbalance really had gotten you to the point where

1 maybe you had to think that it was worth the
2 transactions cost, or at least examine it, then it
3 would be appropriate to look.

4 But I think the thing I was trying to stress
5 is that we are a long way from there. You are going
6 to have to get up to quite a bit of market share --
7 not even "share," that's not the right measure -- sort
8 of absolute size on the part of an ALEC before you are
9 into anything that is anything other than I think I
10 used the phrase penny wise and pound foolish in terms
11 of worrying about traffic being out of balance.

12 If the amount of traffic being exchanged is
13 only 5 million minutes a month, you're just not going
14 to get to numbers big enough unless it is all going
15 one way. And that, we know, is not going to be what
16 happens.

17 Q And so is it fair to say that your
18 recommendation is bill and keep, and it's not bill and
19 keep with some sort of cap?

20 A That's correct. I think what I said was
21 bill and keep with a statement at most by the
22 Commission, Look, don't bother us with this issue
23 unless you have got markets that are now exchanging, I
24 made the tentative recommendation of, 50 million
25 minutes a month of local traffic between a single ALEC

1 and yourself and you have reason to believe that's out
2 of balance by some not 1% or 2% and over the course of
3 a year, not one month it's out of balance, you have to
4 show that it doesn't right itself.

5 Because there are natural fluctuations
6 around a trend. You don't want to start something
7 that ends up in effect netting out over the course of
8 a year to zero payments. That's not worth the
9 transactions cost either.

10 Q Now is it also your recommendation on behalf
11 of MCI that if the traffic is discernibly out of
12 balance then it is your recommendation that
13 compensation for the termination of local traffic
14 would be on a minute of use basis and that would be
15 equal to TSLRIC?

16 A Average TSLRIC, yes.

17 Q I know this has been discussed a little bit
18 but for my benefit, at least, could you go back
19 through and use examples of what definitionally is
20 included in TSLRIC and what you believe is not
21 appropriate to be included? And again we are both
22 talking about average TSLRIC.

23 A Yes. Let me do it first very conceptually
24 and then try to list elements, if I can do it that
25 way.

1 The very basic fundamental principle behind
2 TSLRIC is you are looking for all the costs, both
3 volume-sensitive and volume-insensitive, that are
4 caused by the decision to offer this service. So you
5 want to pick up everything that gets added because --
6 excuse me -- all costs that get added -- because you
7 offer that service, but nothing else.

8 You are not picking up costs that would be
9 there whether you offered the service or not. You are
10 not picking up costs that do not vary whether you
11 offered that service, or didn't offer that service, or
12 didn't offer 22 other services but offered three.
13 That's the president's desk, or at least the efficient
14 president's desk.

15 Sort of moving from the general point, which
16 is you are picking up everything that's caused by that
17 service but nothing more, you are going to pick up
18 costs that vary with the amount of that service that
19 you offer, those are volume-sensitive costs. Are you
20 going to pick up I almost call them startup costs,
21 although it's not a very good phrase, those costs that
22 do not vary with the amount of the service that you
23 offer but are there because you offer the service.

24 You are going to pick up -- in that
25 definition of costs, this is a long run measure so it

1 is going to be capital costs including a return on
2 that capital, whether it is debt or equity or the mix
3 of it -- all of those costs of capital. You're going
4 to pick up labor costs. You're going to pick up
5 material costs. All of which are caused by offering
6 that service.

7 And to the extent that in telecommunications
8 we tend to use the return on capital and profit
9 somewhat synonymously, you are obviously paying a
10 profit, a normal profit, which is the cost of capital,
11 on the capital that is caused by offering
12 interconnection. So you are not talking about
13 anything that leaves the firm worse off than if they
14 had not offered interconnection at all. They have got
15 everything -- they haven't made money on it in the
16 sense that they are not now better off for having
17 offered it, but they are not worse off.

18 Q So under that definition, would joint and
19 common costs be included in average TSLRIC?

20 A No. And I would like to go back and just
21 explain why I say that.

22 Joint and common costs are a kind of unique
23 telephony phrase. They aren't very good terms I don't
24 believe in terms of economic costing any more.

25 Joint and common costs are costs that do not

1 vary with volume, because otherwise they are
2 volume-sensitive costs and they are costs of a
3 service.

4 They are costs that are part of -- I don't
5 want to say necessarily overhead, they are really
6 shared costs, which is a better term, that are caused
7 by a multiplicity of offerings. For example, there
8 are some shared costs of a switch that are there
9 because you have decided to offer an array of switch
10 services but they are not caused by any one of the
11 switch services. And if you take one switch service
12 away, namely interconnection, they don't go away at
13 all; they don't change.

14 So they are there whether you offer this
15 service or not, and the decision to offer this service
16 does not change the quantity of them.

17 Q You referred a number of times this
18 afternoon to transactions costs. I want to make sure
19 that you and I are thinking of transactions costs in
20 the same way. When I think about transactions costs,
21 I look at things like measurement costs. Do you have
22 different costs in mind when you use the term
23 "transactions costs"?

24 A I have additional costs in mind. I would
25 point out there are different kinds of potential

1 measurement costs, as well.

2 Q Maybe first, at least for my benefit, you
3 could explain the difference you believe exists in
4 measurement costs and then add to what else you think
5 are appropriate transaction costs.

6 A Okay. If the system goes in with mutual
7 traffic exchange and mutual traffic exchange not about
8 to end tomorrow, there will be measurement but it will
9 be engineering sizing measurement. That is, each
10 trunk group will be monitored, measured, the traffic
11 coming in will be measured. Peak load may even be
12 stored for a while to see if there are trends -- all
13 done to see whether trunk routes need to be expanded,
14 to be enlarged, or to use a telephony term, reinforced
15 to carry more traffic.

16 But those measurements will not be
17 24-hour-a-day measurements, they will not be stored
18 for long periods of time, months and years, and they
19 will not be used for any purpose other than for
20 sizing.

21 That is the baseline measurement cost that
22 will take place no matter what you do.

23 And now we start talking about transactions
24 measurements costs on top of that basic. The first
25 and the most simplified is that you will start

1 recording 24 hours a day these engineering available
2 kind of numbers, collecting them, storing them, for
3 which you will have to build a program because that's
4 not what you would do if you weren't measuring this
5 traffic.

6 Today, there is no system that I have been
7 able to find out -- and I have talked to engineers at
8 MCI, I have talked to engineers at CAPs, I have talked
9 to engineers or had lawyers talk to engineers for
10 incumbent local exchange companies -- there is today
11 no method to take those numbers of minutes coming in
12 over a trunk that is labeled a local or intraLATA toll
13 trunk combined and say -- I'm going to use the word
14 "sort." I have often been lax in my terms and I
15 apologize. And I have used the word "measure," and it
16 is really "sort," to tell if it is a thousand minutes
17 coming in over that hour, how many of those are local
18 and how many are intraLATA toll. That information
19 does not come in on the terminating end of that trunk
20 and it is not available.

21 You can do that split by having the
22 originating carrier present you a percentage local
23 usage because it could be measured at the originating
24 end, not at the terminating end. And they can present
25 you with that split and now you must take that PLU and

1 bounce it up against these measurements you have now
2 captured 24 hours a day and capped to get a sort
3 between toll and local.

4 That's, still, it is more transactions cost
5 for measuring than if you are just doing the
6 monitoring for engineering purposes. The real concern
7 I have is that, confronted with this need to use the
8 PLU from an entrant, every one of the incumbent LECs
9 that I have talked to has been looking for and talked
10 about starting to find a way to take a new system
11 entirely that would work off of the SS7 signal which
12 does contain the information available to sort the
13 traffic and create a whole new both measurement and
14 sorting system.

15 US West has proposed to do this and it put
16 cost numbers into this into the proceedings in
17 Washington and Oregon. They are confidential and they
18 are high. They are very expensive. This is the cost
19 I worry about out of a measured local termination
20 regime is that somebody will come in and say, "We have
21 to do it and we get to ask the ALECs to pay for this
22 very expensive sorting and measuring system that's
23 untried and not been done before." That's really the
24 big number.

25 The others are numbers and they are real but

1 that's the big one. And that's the pressure you will
2 be under is to say, "We don't trust them, we don't
3 want to use their PLU, we want to measure our own and
4 sort our own." And that's when you get into really
5 big numbers.

6 Q Were there other transactions costs outside
7 of measurement costs?

8 A Yes. Then you start in on the cost of
9 having every month to take these tapes of the stored
10 number of minutes of use, if you ever get this very
11 expensive system, this expensive SS7 system and its
12 tape results, and literally convert them every month
13 into a bill. You are going to have to do the
14 equivalent of that even if you do a netting out
15 process.

16 So now you have bill rendering. You have to
17 transmit the bill, either by the mail, or by
18 electronic tape, or whatever it is you agree -- those
19 guys agree to do.

20 Then you have to monitor the bill, audit the
21 bill, find out from the ALEC's point of view that the
22 bill was accurate. Was it really that number of
23 minutes of use? Why did they say we had 2 million and
24 they say we had 1 million?

25 This goes on all the time now with the CAPBS

1 billing for switched access between local exchange
2 carriers and the interexchange carriers.

3 And then you have to dispute the bill and
4 you have to argue with the other side that your bill
5 was too high. And then finally you have to go through
6 the whole process of exchanging money or, if it is
7 netted, one side or the other has to pay a check.

8 Those are all the real costs of the system
9 if it is done on a MOU basis. And they are not
10 trivial. These are not trivial costs.

11 Q Didn't you just state that your experience
12 with implementation of a system to measure traffic on
13 a minute of use basis in Washington and Oregon you had
14 seen a number that was very high?

15 A Yes.

16 Q Have you had an opportunity to review Dr.
17 Beauvais' testimony for GTE?

18 A Yes.

19 Q Doesn't he state that the measurement costs
20 are very low?

21 A He does, but he uses the cost of measuring
22 local measured service, and that is not what is at
23 stake here. You are not going to use the same
24 measurement system. You are not going to be able to
25 because measured local traffic is measured at the

1 originating switch. You're talking about something
2 that measures at the terminating switch.

3 GTE has proposed to use switched access
4 charges, which means you are going to be into the CABS
5 billing and measurement system, which is more
6 expensive still than local measured service traffic
7 every place, as I said before, I have been able to see
8 those numbers side-by-side on comparable, you know,
9 '94/'94 numbers.

10 Q You had some earlier discussion, I think,
11 with counsel for AT&T on imputation and price
12 squeezes. So that I understand it correctly, you
13 would not need an imputation test for the termination
14 of local exchange traffic if your recommendation of
15 bill and keep were adopted. Is that fair?

16 A Mutual traffic exchange?

17 Q Right.

18 A That's very fair.

19 Q But if this Commission went to a minute of
20 use approach, for example, for compensation, then it's
21 your position that an imputation test is required to
22 avoid a price squeeze as you have defined price
23 squeeze?

24 A That's correct.

25 Q If the result of this docket or any docket

1 dealing with interconnection -- let me back up.

2 If in six months we have various ALECs in
3 the market terminating local exchange traffic, and we
4 also have the incumbent LECs in this proceeding in the
5 market terminating local exchange traffic, and traffic
6 is in balance, is there still a possibility of a price
7 squeeze?

8 A Oh, absolutely.

9 Q Why would that be.

10 A When, maybe it's because of how I use the
11 phrase "in balance." Over time, traffic is likely to
12 be in balance. But it is not likely because it is not
13 a "totology," so to speak, to be necessarily that each
14 hour of each day the traffic is in balance, each day
15 it is in balance, even potentially each month that it
16 is in balance.

17 And so you can have a situation in which in
18 January the ALEC pays the incumbent; in February, the
19 incumbent pays the ALEC; in March, the ALEC pays the
20 incumbent; in April, the incumbent pays the ALEC; and
21 so on, and it bounces back and forth. But the fact is
22 that each of the months that one is the payer, one has
23 to have that cash available to pay.

24 And if the price is high and you're the one
25 out of balance, there's only one place, particularly

1 in ALEC, there's only one place either of them can get
2 it is from their customers. And so you have to build
3 it into the price of the service that uses that input.

4 Even if over the course of the year it comes
5 out to be about the same amount of money exchanged,
6 you can't get around either the need to pay it or the
7 need to put it in your rate to have the money to pay
8 it. And that's where the price squeeze comes in.

9 If the incumbent does not recover in its
10 basic local exchange rates that price of termination,
11 and it is set at a penny or two pennies a minute, and
12 the entrant has to have that cash on hand, it's got to
13 find a way to put it into its local exchange rate or
14 you're back to the various problems enumerated
15 earlier.

16 If it is equally efficient, it can either
17 not compete for half the market in order to be able to
18 recover from those upper revenue spenders that money,
19 and so whatever ability it might have to force
20 efficiency for basic local exchange service is lost,
21 or its got to be more efficient but spend those
22 efficiencies on making up for the price differential
23 in basic local exchange rather than being able to go
24 up and say -- I mean, suppose it can offer in terms of
25 its real cost local exchange service for \$2 less but

1 it's got to use the \$2 to make up for the price
2 squeeze, look at what consumers have lost. It can't
3 go out and say, "I'll charge you \$2 less." All it can
4 do is say, "I'm charging you what the incumbent is
5 charging you."

6 If it is \$3 more efficient but needs \$2 to
7 make up the price squeeze, consumers only get the
8 benefit of, "I'll offer you service for \$1 less."
9 It's \$3 more efficient; but because of this artificial
10 building into the rate of contribution above direct
11 cost, which is average TSLRIC, it cannot advertise
12 local exchange service for \$3 less even though it is
13 that much more efficient than the incumbent.

14 That's the real price you impose on end
15 users if you set that interconnection charge above
16 average TSLRIC.

17 Q Dr. Cornell --

18 COMMISSIONER DEASON: Let me ask a question.
19 Would not the incumbent LEC also be required for cash
20 flow purposes to price that terminating rate into
21 their charge for local service?

22 WITNESS CORNELL: Well, to begin with, at
23 the outset they can't change their rates if they are a
24 price-regulated firm. Two, at the outset they also
25 have almost 100% of the market; so they can play the

1 averages, they can go off of what the average consumer
2 out there earns them in total revenue.

3 But the entrant cannot do that because it
4 does not know -- I mean, it can either deliberately
5 try to ensure it only catches average consumers or
6 above, but it can't afford, if the first three
7 consumers who sign up are below average revenue
8 generators, it cannot be certain that the next three
9 who sign up will counterbalance it.

10 So you have got a situation in which the
11 entrant coming in in that circumstance, (a) because
12 the LEC cannot change its rates right now; and, (b)
13 because those rates will not pass an imputation test
14 of certainly for a price above average TSLRIC,
15 particularly the residential rate right now won't pass
16 it. That if it is anything higher, you're right back
17 into the world I tried to describe earlier that the
18 entrant will somehow say, "I'm not going to take
19 anybody who doesn't generate more than average or at
20 least more than basic local exchange service revenue."
21 And that hurts those customers who otherwise might
22 have been the target of competitive entry.

23 Q (By Ms. Weiske) Dr. Cornell, there's a
24 statute in Florida that requires that the charge
25 for -- that the cost for furnishing interconnection

1 must be recovered in the charge. Are you generally
2 familiar with that?

3 A Yes.

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5 (Transcript continues in sequence in
6 Volume 9.)

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