

BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

 In the Matter of : DOCKET NO. 980696-TP
 :
 Determination of the cost of :
 basic local telecommunications :
 service, pursuant to :
 Section 364.025, :
 Florida Statutes :
 :
 :
 :

VOLUME 17

Pages 1936 through 2095

PROCEEDINGS:

HEARING

BEFORE:

CHAIRMAN JULIA A. JOHNSON
 COMMISSIONER J. TERRY DEASON
 COMMISSIONER SUSAN F. CLARK
 COMMISSIONER JOE GARCIA
 COMMISSIONER E. LEON JACOBS

DATE:

Wednesday, October 14, 1998

TIME:

Concluded at 7:30 p.m.

LOCATION:

Betty Easley Conference Center
 Box 148
 4075 Esplanade Way
 Tallahassee, Florida

REPORTED BY:

JANE FAUROT, RPR

(APPEARANCES: As heretofore noted.)

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I N D E X

WITNESSES

NAME	PAGE NO.
WILLIAM E. TAYLOR	
Questions by Commissioner:	1939
FRANCIS J. MURPHY and TIMOTHY J. TARDIFF	
Direct Examination by Mr. Williams	1976
Prefiled Testimony of Witness Tardiff	
Inserted	1994
Prefiled Testimony of Witness Murphy	
Inserted	2019
Cross Examination by Mr. Melson	2041
Cross Examination by Mr. Cox	2058
JAMES W. SICHTER	
Direct Testimony by Mr. Rehwinkel	2065
Prefiled Testimony Inserted	2084
Cross Examination by Mr. Henry	2086
Cross Examination by Mr. Hatch	2092
Cross Examination by Mr. Cox	2093

EXHIBITS - VOLUME 17

NUMBER	I.D.	ADMTD.
68		1975
69	2041	2063
70	2041	2063
71	2084	2094
72	2088	2094

P R O C E E D I N G S

(Transcript follows in sequences from Volume 16.)

WILLIAM E. TAYLOR

continues his testimony under oath from Volume 16.

QUESTIONS BY COMMISSIONERS

COMMISSIONER CLARK: I suggest to you that people that are going to provide them long distance will.

COMMISSIONER GARCIA: Exactly. Why wouldn't they? I mean, if he is a big user who has a series of lines, it's efficient to get to him -- I mean, if we were to take all things equal as they are today, I'm sure that people who had six or seven lines in their home, BellSouth would probably waive costs to them. They would say, you know what, don't pay for your local service. And then the poor grandmother who just has a basic line and doesn't get any additional service, she is up the creek.

WITNESS TAYLOR: Right.

COMMISSIONER CLARK: She is paying for those six lines.

COMMISSIONER GARCIA: And she is going to pay for those six, plus we are going to say to her, let's pay a little bit more because you are getting subsidized service. Yet we are willing to subsidize Bill Gates and his beach home in Key West.

WITNESS TAYLOR: Well, be careful; we're not

1 subsidizing Bill Gates. What we are doing is providing a
2 subsidy for loops whose cost is higher than average, or
3 higher than some standard. Bill Gates himself can stand or
4 fall on his own. Yes, it may be the case that Gates is such
5 an attractive customer that in order to market to Gates,
6 just like companies market to General Motors or something,
7 that you will put together a deal for him. Absolutely.
8 There will be lots of deals. But any company that is
9 obliged to provide his loop at a cost, at a price less than
10 the cost of supplying the loop, is at a disadvantage in that
11 war to become Mr. Gates' supplier. You know, it may be that
12 the end product will be AT&T gets him with some package
13 where the loops are free and will charge for the usage,
14 that's fine, because that is optional and that's the way
15 markets work. But in that competition, poor U.S. West has
16 to come into that competition with six hands tied behind its
17 back in the sense that it has to provide the loop if nobody
18 else wants to provide it. And, in fact --

19 COMMISSIONER CLARK: But, I guess, the assumption
20 in there is that you will have somebody who will not step
21 forward to provide it, and somebody will be obligated to
22 step forward and provide it.

23 WITNESS TAYLOR: Well, if the world were
24 perfectly symmetric as we started, I don't think we would
25 have a problem. But we do have a supplier of last resort

1 who is obligated.

2 COMMISSIONER CLARK: So what we need to do is
3 perhaps indicate some areas where we won't designate
4 suppliers of last resort, and they won't be -- and there
5 will be no universal service fund and people can compete for
6 that as they choose?

7 WITNESS TAYLOR: Well, yes, I guess if we had
8 sufficient local competition in some areas, maybe we are
9 talking about downtown Miami or something, that you could
10 safely take such a position, and all carriers could compete
11 for customers, charge whatever they liked for whatever
12 packages of service they want to put together, and it would
13 be just like an unregulated market. And there is nothing --
14 you know, as long as there is sufficient competition that
15 you can feel safe that customers will have access to the
16 network and can use the network, and there is nobody that
17 can reap monopoly profits, I think that's fine.

18 COMMISSIONER CLARK: Thanks.

19 COMMISSIONER DEASON: I have a question. When
20 you use the term benchmark in relation to universal service,
21 what do you mean by that?

22 WITNESS TAYLOR: I mean a standard, a dollar
23 standard which determines how much money should go to a
24 company that serves customers in that area. And in my view,
25 the benchmark is what I have called in my testimony a price

1 benchmark, which is the price of basic local service. And
2 we look at the difference between the benchmark and the cost
3 and that determines the size of the fund. The FCC has a
4 revenue benchmark --

5 CHAIRMAN JOHNSON: A cost benchmark. You have a
6 cost benchmark.

7 WITNESS TAYLOR: Well, I called it a price
8 benchmark, because I used the price of basic local service
9 and the difference between that and the cost of basic local
10 service which you determine here.

11 COMMISSIONER DEASON: So it's price compared to
12 cost, but it is -- it's based on cost, because price can
13 vary. If we have the latitude -- if the result of this
14 study and the legislation which ensues is to give this
15 Commission some flexibility on setting prices, obviously we
16 have latitude. If we keep the prices low, the needed
17 subsidy pool is going to be larger. If the prices increase
18 it's going to be less.

19 WITNESS TAYLOR: That's correct.

20 COMMISSIONER DEASON: Because once we determine
21 cost, they are set unless we, in several years look at cost
22 again under this process of reviewing costs. Now, you made
23 reference to a revenue benchmark?

24 WITNESS TAYLOR: Yes.

25 COMMISSIONER DEASON: And that there was some --

1 at least at the FCC level there was some discussion of that
2 and perhaps adoption of that. How does a revenue benchmark
3 compare to your definition of benchmark?

4 WITNESS TAYLOR: Well, it's similar except the
5 revenue benchmark looks at the revenue from all of the
6 services that use the basic loop.

7 COMMISSIONER DEASON: Now, is that customer
8 specific or is that average revenues for a wire center?

9 WITNESS TAYLOR: Well, it starts with customer
10 specific, that is they take revenue that each customer
11 spends and they average that, and it's calculated by wire
12 center. If that helps.

13 COMMISSIONER DEASON: So the amount of subsidy
14 pool needed is done on a wire center basis and it's based
15 upon the amount of revenue that wire center generates in
16 relation to the cost?

17 WITNESS TAYLOR: For those customers, yes. I
18 should say that is the way I would do it if I were doing
19 that. The FCC's number is a national number, so it
20 doesn't --

21 COMMISSIONER DEASON: Well, then it seems to me
22 you still have a distortion there, the competitors are still
23 going to target high revenue customers and could care less
24 about low revenue customers because the costs are still
25 going to be there.

1 WITNESS TAYLOR: Correct. Now, I'm not
2 advocating that.

3 COMMISSIONER DEASON: I understand, but I assume
4 that is part of the difficulty you have with that concept?

5 WITNESS TAYLOR: Yes, that is part of the
6 difficulty. The main difficulty is that it results in a
7 fund which is too small to overcome the subsidy that is
8 flowing to local, to the basic local exchange loop.

9 COMMISSIONER DEASON: If we have a wire center,
10 and just for example, it costs \$50 per line to serve that
11 wire center, and let's say that that wire center on average
12 produces \$30 per line in revenue?

13 WITNESS TAYLOR: Right.

14 COMMISSIONER DEASON: So there is a \$20
15 difference, and I assume that if someone wins a customer in
16 that wire center they are able to receive \$20 in subsidy?

17 WITNESS TAYLOR: In a revenue benchmark, yes,
18 that's what would be correct.

19 COMMISSIONER DEASON: Okay. But then a
20 competitor would want to target those customers who actually
21 have more, generate more revenue, so they are still going to
22 get the \$20. And the poor little old -- the grandmother out
23 there who doesn't do anything, they are only going to get
24 the \$20 to serve her, and they are going to be less
25 concerned about giving her competition.

1 WITNESS TAYLOR: That's correct, even within a
2 wire center in any of these plans there will be more
3 competition to serve high revenue customers than low revenue
4 customers. I mean, that's a fact of life.

5 COMMISSIONER GARCIA: Doesn't it beg the question
6 then that what we are doing is simply incentivizing the same
7 issue that brought us here today, the plight of these
8 customers, the loss of these customers from the BellSouth
9 base?

10 WITNESS TAYLOR: No, I don't think it's that so
11 much. I think it's making sure that whoever provides the
12 local loop to those customers isn't disadvantaged by the
13 fact that basic local exchange rates are priced below cost.
14 That's my view of it.

15 COMMISSIONER DEASON: Well, how do you structure
16 a subsidy fund so that it doesn't have competitive
17 distortions?

18 WITNESS TAYLOR: Well, it doesn't have
19 competitive distortions. Do you mean by a competitive
20 distortion that people try to attract high revenue customers
21 and not low revenue customers?

22 COMMISSIONER DEASON: Well, do you consider that
23 a distortion?

24 WITNESS TAYLOR: No, I actually don't.

25 COMMISSIONER DEASON: That is natural in

1 competition?

2 WITNESS TAYLOR: It isn't fun, but it's life. If
3 you walk into a car lot and you want to buy a car that's
4 loaded and someone else walks in and wants to buy the car
5 that's advertised in the paper, they will buy you coffee, but
6 they won't be terribly anxious to deal with the other. The
7 competitive distortion that I would like to iron out is to
8 make sure that everybody, all of the potential players, the
9 CLECs, ALECs, the ILECs, have no reason not to try to
10 provide basic local exchange service to every customer in
11 the state, in high cost areas and in low cost areas. That
12 is the big difference. I mean, that's what -- if you were
13 at 10,000 feet and were a Martian, and were wondering what
14 the big picture was, the picture is that there isn't any
15 competition or much competition particularly in rural areas
16 because no one can make money by providing loops at very
17 high cost out there, particularly when someone else already
18 has and is required to sell them at a statewide averaged
19 rate. And I want to undo that.

20 COMMISSIONER JACOBS: Let's take as a
21 hypothetical at the point at which a customer in a high cost
22 area provides revenues that exceed the benchmark, okay,
23 everything else beyond that point is marginal?

24 WITNESS TAYLOR: Correct.

25 COMMISSIONER JACOBS: So if we do that, we are

1 kind of setting artificial margins on those other services,
2 aren't we?

3 WITNESS TAYLOR: Well, let's see. We are in a
4 high cost area, we have Bill Gates who provides enough
5 revenue that it more than covers the cost of serving Bill
6 Gates. Under any kind of universal service fund that we are
7 talking about here, the company that puts in loops to serve
8 Bill Gates is going to draw from the fund some money. They
9 wouldn't need that money. Granted they would like to have
10 Bill Gates. In fact, what would happen I presume is they
11 would cut a deal with Mr. Gates, whatever package it is that
12 he bought, but they would be offering a package on the same
13 basis that another carrier, AT&T or MCI would who didn't
14 have to put in the loops, that you wouldn't be disadvantaged
15 because you had to sell Mr. Gates these \$100 costing loops
16 for a \$15 price.

17 COMMISSIONER JACOBS: Right. And when that
18 competitor comes in, he knows that Mr. Gates is going to buy
19 a package with bells and whistle services.

20 WITNESS TAYLOR: Right.

21 COMMISSIONER JACOBS: And he also knows that he
22 is going to get back from the fund. He is going to play all
23 kind of games with those margins.

24 WITNESS TAYLOR: That's right. That's
25 competition.

1 COMMISSIONER JACOBS: And my concern is that --
2 I'm kind of with Commissioner Garcia, I don't see how we
3 have cleared the market --

4 WITNESS TAYLOR: Well, I mean, this also goes to
5 Commissioner Clark's question. If your concern is that you
6 don't need the fund to ensure that Mr. Gates is going to get
7 high quality service, I'm with you. That is exactly right.
8 No problem, no problem as far as Mr. Gates getting service
9 is concerned. The problem is in the folks who are competing
10 to provide Mr. Gates service, whoever has to provide the
11 loop is at a disadvantage. Now that isn't fair, you know,
12 and as long as nobody -- well, if one person didn't have to
13 do it, then it probably wouldn't be a competitive asymmetry
14 or wouldn't be a terribly evil thing.

15 COMMISSIONER JACOBS: Give me your thoughts on
16 this. Let's say then we will go ahead and we are serving,
17 the provider gets the compensation from the fund, but at the
18 point where the bundle of -- where the total revenue from
19 that customer goes over, all the excess margins back off, we
20 back them off the fund support.

21 WITNESS TAYLOR: Okay. Do I like that? No, I
22 don't like that at all.

23 COMMISSIONER JACOBS: What would be your critique
24 of that?

25 WITNESS TAYLOR: Well, you see, first of all, you

1 wouldn't need to do it if the market for toll and vertical
2 services and all of these other services is competitive,
3 because the market will back that out. That is if I know if
4 I get Mr. Gates as a customer I can sell him a gazillion
5 dollars worth of toll, and I'm going to get a check from the
6 fund for \$5, what is going to happen to that \$5? Well, AT&T
7 knows that, MCI knows that, BellSouth knows that. That \$5
8 is going to disappear. It is going to be competed away in
9 the price of the package that I offer to Mr. Gates. So I
10 don't think as long as you have competition for toll, for
11 these other optional services, there is not a problem that
12 the \$5 is somehow going to go into someone's pocket and it's
13 a windfall. Competition will compete that \$5 away. What
14 will happen is that you will have a fund that is useful here
15 for competition, but not necessarily for keeping people on
16 the network, because Mr. Gates obviously is going to be on
17 the network no matter what. Does that help?

18 COMMISSIONER JACOBS: I'm not sure I share your
19 optimism.

20 COMMISSIONER CLARK: Yes. And why should we have
21 that kind of fund that is useful for competition but not
22 keeping people on the network?

23 WITNESS TAYLOR: Well, actually if I were a
24 Commissioner for a day, we have always talked about having
25 targeted subsidies, and, in fact, you do. You have Lifeline

1 plans which do precisely that. They tailor all of the
2 contribution to the people in principle who if you don't
3 give it to them they will leave the network, and that's the
4 right way to do social subsidization of individuals in a
5 targeted way. But the universal service fund is sort of
6 something else. I think in my mind at least, I assume that
7 you have done all of the efforts that are required to keep
8 low income people on the network separately with your Linkup
9 programs and your Lifeline programs. And that the purpose
10 of this universal service fund is to be able to set prices
11 that enable everybody to be on the network, high cost areas
12 and low cost areas alike, and so that we can encourage
13 companies to serve high cost areas and low cost areas alike.
14 And it's not so much to keep the poor on the network that
15 this addresses in my mind, but the other.

16 COMMISSIONER CLARK: Let me ask you a question.
17 I seem to recall when we did -- when the Florida Commission
18 introduced competition into the retail market, or at least
19 took action to facilitate that, they said when somebody came
20 in to serve a particular area, an equal access exchange
21 area, they had to serve everybody in that area.

22 WITNESS TAYLOR: Right.

23 COMMISSIONER CLARK: Does it make any sense to do
24 that same sort of thing here to prevent the cream skimming?
25 You know, you take a wire center and say if you are going to

1 serve anyone in that wire center you must be willing to
2 serve everyone.

3 WITNESS TAYLOR: Yes, I guess I don't see
4 anything terribly wrong with that. It's not something which
5 is very enforceable in the sense that, yes, they have to
6 hold themselves out to serve, but if I come in and my prices
7 aren't regulated, I can set prices that would discourage
8 anybody but the highest volume user from using my service.
9 I mean, it will be \$300 a month flat charge, but I will give
10 you a penny a minute for long distance. And, yes, I will
11 provide that to anybody in any wire center, but I'm only
12 going to have high volume customers that will come to me.
13 So, as long as these people -- as long as prices aren't
14 regulated, it's hard to enforce and have the desired effect,
15 I think.

16 COMMISSIONER CLARK: Unless we require them to
17 offer basic local service at a certain rate to everyone?

18 WITNESS TAYLOR: Yes. Unless you did that,
19 that's right. And, in fact -- but what that would do would
20 be to put every carrier, ILEC and ALEC alike at the same
21 disadvantage when they try to serve in rural areas.

22 COMMISSIONER CLARK: Well, then nobody has an
23 advantage.

24 WITNESS TAYLOR: Then no one has an advantage and
25 you have solved my problem, but I think you have created

1 your own problem in the sense that companies that would
2 otherwise come in and serve in Florida, or in an EAS area in
3 Florida, or whatever, now would find it not profitable if
4 they couldn't --

5 COMMISSIONER CLARK: Cream skim.

6 WITNESS TAYLOR: If they couldn't cream skim,
7 yes.

8 CHAIRMAN JOHNSON: Let me ask you a follow-up
9 question on one of the points that you were making with
10 respect to the purpose of universal service. And I know
11 that you focused somewhat on the purpose being to make sure
12 that everyone is able to have access to the network, but you
13 talked about it more from a purpose of universal service is
14 to provide for more competitive markets by more accurate
15 pricing.

16 WITNESS TAYLOR: Yes.

17 CHAIRMAN JOHNSON: The competitive markets that
18 perhaps may be one of the reasons for having this high cost
19 fund, but those markets aren't going to happen overnight,
20 particularly in rural areas. And you can say -- you can
21 disagree with me. Even if you have the subsidy, the
22 competition won't occur overnight. So in my mind for some
23 percentage of time, I don't know, two years, three years,
24 four years, the rurals that may be paying increased rates
25 will be paying for the competition that is going to occur in

1 the urban areas?

2 WITNESS TAYLOR: Yes, except on average no one is
3 paying an increased rate. I mean, all we are doing is
4 shifting these costs around and paying them differently.
5 Yes, high volume users will pay more, low volume users will
6 pay less, but on average this is just a shifting of a
7 burden, it is not changing the total amount that people pay.

8 CHAIRMAN JOHNSON: Explain that to me.

9 WITNESS TAYLOR: Well, my view of the universal
10 service fund is you calculate a dollar amount of the fund by
11 whatever method you use, and that then is recovered, that
12 very amount, no more and no less is recovered from all
13 telecommunications users, generally all users of the public
14 switched network, generally as a broad-based tax. As a tax
15 on revenue or something like that. So in net there is no
16 change in the amount that people pay. That is the fund
17 causes people to pay less, the tax causes people to pay
18 more, and the two are set to be equal. I don't see it as an
19 increase in the aggregate amount that people pay. It's a
20 shift, but I don't think it's an increase.

21 COMMISSIONER CLARK: In the aggregate amount, but
22 doesn't it depend on how you recover that amount? If you do
23 it on revenues, as you suggest, then the companies who have
24 more revenues and customers who are paying more revenues
25 will pay more, but if do you it such as has been done in the

1 past when subsidies have been made explicit, the 3.50 SLC
2 charge, then those people who don't use the network as much
3 are going to be paying more.

4 WITNESS TAYLOR: Yes. I agree with you, it
5 depends upon how it is recovered. All my point was that in
6 total the amount is the same. If you recover it as a tax on
7 usage or something like that, that's a very broad-based and
8 general tax. So from one perspective at least it's a good
9 thing. On the other hand, I should say the economists'
10 first choice in all of this is just like the subscriber line
11 charge, it's to raise the prices to cost for access to the
12 network to begin with, and we wouldn't be in this problem.
13 But it's because we have decided that is not good public
14 policy that we are trying to find another way to do it.
15 Subscriber line charges is just that same way we rejected
16 before in disguise. This is a way of spreading it out over
17 all services.

18 CHAIRMAN JOHNSON: Another point that you
19 mentioned in an explanation to one of Commissioner Clark's
20 points, or maybe it was Commissioner Deason, when you talked
21 about the revenue benchmark versus your price benchmark.
22 And you talked about the FCC methodology and the 75/25
23 percent distribution that they would recover, the 25 percent
24 and the 75 percent would be either not recovered or states
25 could come up with some mechanism. Do you know the status

1 of that particular policy that was stated in the FCC order?

2 WITNESS TAYLOR: I guess not recently. And I
3 read the order and I don't know of anything that has changed
4 since then. So I guess the short answer is no, I don't have
5 facts as to what the FCC is doing.

6 CHAIRMAN JOHNSON: And maybe you are not familiar
7 and you're right, they did state that in their order that
8 that was at least a placeholder until they determined what
9 they should properly do. In their report to Congress, I
10 think it was their April report to Congress, they stated
11 that that decision would be revisited. Do you remember --

12 WITNESS TAYLOR: I think I have heard that, and
13 it's also, is it not, a Joint Board matter, as well. It's
14 not simply the Commission. And, of course, it's a new
15 Commission from when 25 percent was established. So, I
16 mean, if I were to give you my opinion, I would say that
17 that is a number that is still in play, because the FCC is
18 behind and is dawdling on universal service sort of period.
19 I believe that number would be in play, too, but I'm not
20 sure that helps you in your deliberations.

21 CHAIRMAN JOHNSON: I was going to ask you to the
22 extent that they determine that they were going to whatever
23 the amount is between your assuming they pick a price
24 benchmark because they are revisiting that, too, and cost,
25 if they were to determine that all of it should be funded

1 through interstate revenues, does that affect anything that
2 you have articulated?

3 WITNESS TAYLOR: Well, not for you to decide at
4 the moment, I think. I mean, the way I understand it, and I
5 don't know how this fits into the Florida schedule, if I
6 were king in Florida what I would do would be to see what
7 the FCC has done, look at the size of their fund, all right.
8 But today in Florida, I would decide what size fund I need
9 in total to remove all of the implicit subsidies in rates in
10 Florida. So, I figure that out, I figure out what the total
11 size of the fund is, and maybe that comes to a 2 percent tax
12 on revenue, I don't know. So I put that down as a
13 placeholder and I sit and wait. And then in due course of
14 time, Washington tells me they have decided something, and
15 here is how much money Florida gets. Well, then I would
16 subtract that from the total amount that I need in Florida
17 and my tax wouldn't be 2 cents, but it would a cent and
18 three-quarters, and I would be done. I don't know how that
19 fits into your legal processes, but that's sort of how the
20 economics of it, I think, ought to work. Assuming that you,
21 in Florida is the body that determines what the size of the
22 universal service fund when all is said and done in Florida
23 is. And I think that probably is correct, that it is your
24 obligation to do that.

25 CHAIRMAN JOHNSON: Do you think that we in

1 Florida have the -- the Commission would have the ability to
2 set up a universal service fund that didn't fund high cost
3 areas, per se, but went to low income individuals in
4 addition to the Lifeline/Linkup program, but that we focus
5 in on some sort of means testing? Another question is how
6 would we do it, and that might be a graver question. But do
7 you think we have the authority to focus in on that?

8 WITNESS TAYLOR: Oh, sure. I mean, I think you
9 have already done it in the sense of a Lifeline program.
10 But I think that the place to look at that is in the context
11 of the Lifeline program. Is that means tested in Florida?

12 CHAIRMAN JOHNSON: Yes.

13 WITNESS TAYLOR: So, if you think that the
14 current levels of support coming from the Lifeline fund are
15 inadequate because poor people are being driven off the
16 network or for whatever reason, then reexamine the Lifeline
17 program, because that has the income test built into it,
18 whereas the universal service fund by its construction does
19 not. And I think it would be very difficult to sort of mix
20 the two. I think it is certainly convenient mentally, and
21 it may even be convenient legally to have one subsidy system
22 means tested to keep low income people on the network, and a
23 separate system to ensure that at regulated prices for basic
24 local exchange service all competitors have an equal
25 incentive to provide service. I think those are just two

1 separate things, and I think we may get into trouble if you
2 try to means test a high cost fund, you know, or put high
3 cost on top of a Lifeline fund.

4 CHAIRMAN JOHNSON: Okay. I mean, you think we
5 could do a means test, the high cost fund, and say certainly
6 the costs in this area may be \$100 to serve a line, but
7 because Bill Gates can afford it, he is going to have to pay
8 his \$100. But you don't think that would be wise to do?

9 WITNESS TAYLOR: No, I do not think that would be
10 wise. Among other things, you would then have competition
11 to serve low income people in high cost areas, but we would
12 have my competitive problem when we are trying to find
13 service to high income people. But I guess the point is
14 that high income people can manage.

15 CHAIRMAN JOHNSON: They can pay it, so they would
16 continue to pay it.

17 WITNESS TAYLOR: Right. It may be inefficient
18 competition, but there will be enough of it that we don't
19 have to worry about it.

20 COMMISSIONER GARCIA: Should we distinguish it,
21 though, by ancillary service? Should we then -- shouldn't
22 we sort of target something that is essential for everyone
23 as what needs to be funded --

24 WITNESS TAYLOR: Yes.

25 COMMISSIONER GARCIA: -- and then let the market

1 take care of other forces?

2 WITNESS TAYLOR: That's correct.

3 COMMISSIONER GARCIA: By that, I mean, let's say
4 we have got someone living in a wood hut next to Bill Gates,
5 and it costs just as much to get that line to Bill as it
6 does to -- but the person in the wood hut, as long as they
7 get basic phone service, and what I'm talking about is
8 making a distinction as POTS, all they get is dial tone and
9 they get to call out as much as they want and receive as
10 much, but they've got no other vertical services. Then the
11 State targets those people for some type of implicit subsidy
12 or universal fund, but then Bill, who we all know is not
13 going to get one line; he wants an Internet provider, he
14 wants a fax machine, he wants a satellite control system, I
15 don't know what he wants, but BellSouth is willing to sell
16 it to him. In that case that there is no subsidy because
17 the other revenues that are generated by those services will
18 to some degree or another compensate the providers?

19 WITNESS TAYLOR: Well, yes, but if I understand
20 what you have said, it may be a dangerous thing. If the
21 deal is I'm the guy who lives in the house next to Bill
22 Gates, and as long as I only subscribe to basic service
23 BellSouth gets \$5 for hauling a line to me, but the moment I
24 subscribe to call waiting, my \$5 goes away, you can do that
25 if you like --

1 COMMISSIONER GARCIA: Maybe.

2 WITNESS TAYLOR: But, first of all, that gets
3 competed away in the markets for these ancillary services,
4 which presumably are competitive, and toll would be a better
5 example. And, second, I think you would probably be accused
6 of providing second class service to high cost people, that
7 is -- or to people who only want access to the network. I
8 mean, you don't want to be in the position of telling people
9 you can have basic service, but, boy, if you have anything
10 more than that, the conditions are going to change. You
11 know, if you want to buy call waiting, we are going to
12 change the amounts of subsidy --

13 COMMISSIONER GARCIA: Well, but won't they change
14 by the very nature of the industry? In other words, won't
15 they change by the very nature of how business works?
16 Essentially when someone says, you know, I want to get Bill
17 Gates, and I certainly don't want to pay BellSouth for
18 resale. So they run their own loop or they buy the loop
19 from BellSouth, and now they are running up beside this
20 lady's house, or, I'm sorry, your house, you are living in
21 the shack, in the wooden shack there. And they say, you
22 know, we are here anyway.

23 WITNESS TAYLOR: Well, now you're saying it
24 doesn't cost us that much.

25 COMMISSIONER GARCIA: Yes.

1 WITNESS TAYLOR: Okay, that's fine.

2 COMMISSIONER GARCIA: But, see, we are running
3 300 lines to -- you know, let's toss over a loop to this
4 guy, he is sitting here. And then they get your subsidy,
5 whatever it is for basic service, but then you say I want to
6 get vertical this, that, and the other thing, it may be
7 worthwhile to them without the subsidy.

8 WITNESS TAYLOR: Sure, but you have changed one
9 of the assumptions that we were making, namely --

10 COMMISSIONER GARCIA: Well, aren't those things
11 that are going to change? In other words, aren't I going to
12 compete in a different way when I go into downtown Miami?
13 In other words, when I go in there, I don't care what
14 BellSouth has got in the ground, I'm going to run my own
15 stuff most probably, or I'm going to put in an antenna in
16 the building next door, I'm going to put a -- and I don't
17 care what BellSouth has there. So there is going to be
18 duplication, and this Commission's job is not going to be to
19 avoid that costly duplication. But in the broader sense,
20 and I think Commissioner Clark touched on this, it's sort of
21 shouldn't we would be guaranteeing -- you're right, I'm not
22 guaranteeing the best service, I'm just guaranteeing you
23 service. But better that than guaranteeing a subsidy to
24 people who don't need it, and something that to some degree
25 will probably hurt competition.

1 WITNESS TAYLOR: Well, the first part, to people
2 that don't need it, once we go to need it seems to me that
3 the question of high cost more or less disappears, and we
4 are back to sort of the universal service fund. If you are
5 dealing with a poor person in a shack next to Bill Gates,
6 then I think universal service -- the Lifeline fund is going
7 to have to keep such people on the network. And what I see
8 the use of the universal service fund is to enable us to set
9 a price below the cost of a loop for basic local service for
10 everybody, because we want to do that politically, not to
11 keep poor people on the network, because we have another
12 fund to take care of that, and to be able to undo the
13 distortions that setting a price below the cost of a loop
14 causes us to make.

15 COMMISSIONER GARCIA: And you don't think that
16 produces an artificial distortion in the other direction?
17 In other words, again, we will go back to the Bill Gates and
18 your scenario. I think Commissioner Clark used the formula
19 of it cost \$150 per line to service Mr. Gates up there on
20 this cliff. Before BellSouth was not charging what that
21 should have been, which is because we had this policy, so
22 you in the shack and Bill were getting the same. Now, AT&T
23 comes in and says, oh, man, I get \$150 from the State of
24 Florida, a government check, and I get Bill Gates' ten
25 lines, 400 distance calls, \$3,000 in vertical services a

1 month, and Florida is giving me a check.

2 WITNESS TAYLOR: Right. And MCI looks at this
3 situation and says exactly the same thing, and so does
4 BellSouth. And when it comes to Mr. Gates, they all come up
5 to Mr. Gates with their little presentation of what I can do
6 for you. And in this competitive market, the \$150 check
7 from the State of Florida, actually from the telephone users
8 of Florida --

9 COMMISSIONER GARCIA: They sign the back of the
10 check and they give it to Bill Gates, probably.

11 WITNESS TAYLOR: Well, it gets competed away,
12 let's put it that way. They are going to charge Mr. Gates
13 less for toll service because part of what they get when
14 they get Mr. Gates is a check from the people of Florida.

15 COMMISSIONER GARCIA: And then you are still
16 there in your hut, and Florida is paying you --

17 WITNESS TAYLOR: Well, Florida is paying whoever
18 serves me \$150, and that just means that MCI, AT&T and
19 BellSouth all can just apply me if they are efficient and
20 make a little bit of money, even if I don't make a phone
21 call at all. And now I have a choice. It's competitively
22 neutral. Those guys are all getting the same deal, and for
23 once in my life I get to choose.

24 COMMISSIONER GARCIA: Well, no, not for once in
25 your life, you get to choose now. The system we have now

1 let's you choose. We will run that wire wherever you live.
2 You can live in the middle of the Everglades. This
3 Commission's rules, more or less, will get to you and you
4 don't pay more than the guy who is living in downtown.

5 WITNESS TAYLOR: Oh, I understand that, but I
6 don't get to choose among AT&T, MCI and BellSouth. I have
7 to take whatever the ILEC is who is stuck with me.

8 COMMISSIONER GARCIA: Right.

9 COMMISSIONER CLARK: I just have one question.
10 Getting back to the notion of requiring people to compete in
11 the whole wire center. Might we say that if you serve one
12 person you must serve them all, and you must provide basic
13 local exchange service for the same amount as the incumbent
14 LEC?

15 WITNESS TAYLOR: So you would have a regulated
16 price for basic local exchange service. I will tell you
17 what is wrong with that one. The problem is if ILECs --

18 COMMISSIONER CLARK: If we don't have regulated
19 price for basic local exchange service, how are we going to
20 assure that it remains revenue neutral?

21 WITNESS TAYLOR: Let me answer the first question
22 and come back to that one. The problem is once people start
23 packaging services together -- let's pick on AT&T. Once
24 they provide local service as well as long distance service,
25 they just have a package. I mean, suppose they came to your

1 house and said, all right, \$50 a month and we will only
2 charge you a nickel a minute for your intrastate toll and
3 six cents a minute for your long distance. What price are
4 they charging you for basic local exchange service? I don't
5 know.

6 COMMISSIONER CLARK: Well, I'm saying that they
7 have to -- they have to be willing to provide the bare bones
8 service.

9 WITNESS TAYLOR: Just the basic local exchange
10 service.

11 COMMISSIONER CLARK: Right.

12 WITNESS TAYLOR: Ah, yikes.

13 COMMISSIONER CLARK: It seems like to me if you
14 did that then they would be more willing to package things
15 that would be attractive to those people who normally only
16 take basic local exchange service.

17 WITNESS TAYLOR: Well, let's see. They can
18 provide any service they want, but they also must provide
19 basic local exchange and only that for \$15 or whatever, if
20 they are going to provide any local services?

21 COMMISSIONER CLARK: In the wire center.

22 WITNESS TAYLOR: Okay. Then they are in exactly
23 the same position, it seems to me, as the ILEC is.

24 COMMISSIONER CLARK: Right.

25 WITNESS TAYLOR: That is whenever anyone knocks

1 on their door they have to provide bare bones service at
2 \$15.

3 COMMISSIONER CLARK: Right.

4 WITNESS TAYLOR: They have an advantage that they
5 don't have to provide local service in the wire center
6 unless you can make that attractive to them. I mean, they
7 still have the choice of providing toll in the wire center
8 but not local service, and if they provide local service to
9 one person, then they have to provide local service at \$15
10 to everybody.

11 COMMISSIONER CLARK: You are suggesting we won't
12 have competition for local exchange service if we do that?

13 WITNESS TAYLOR: Well, you may not, though if you
14 did, it at least would be efficient competition, because --

15 COMMISSIONER CLARK: Well, you know, I'm just
16 thinking of some of the rural areas where you have prisons
17 where people would be interested in providing them service,
18 but then not providing the rest of the customers, say, in
19 the wire center or the rural area. You know, how do we to
20 some extent combat against that cream skimming, because if
21 the cream skimming does occur it creates the greater need as
22 I understand your testimony, or a universal service fund?

23 WITNESS TAYLOR: Yes, it does, but I would
24 certainly be wary about trying to drive cream skimming kind
25 of out of the market. I mean, when we call it cream

1 skimming, it sounds pejorative, but really that is the way
2 even competitive, fair, wonderful markets we would like to
3 emulate work.

4 COMMISSIONER CLARK: But that is fair as long as
5 all the competitors are on equal footing; it's not fair when
6 they are not.

7 WITNESS TAYLOR: That's correct.

8 COMMISSIONER CLARK: So one way to put them on an
9 equal footing is to require them to serve everybody at least
10 basic local exchange service at the price of the incumbent
11 LEC.

12 WITNESS TAYLOR: Yes, and that's almost on a
13 level playing field, except not quite, because you still --
14 somebody, whether it's the ILEC or somebody else has to
15 provide, be the provider of last resort, if you like.
16 Someone has to provide service there.

17 COMMISSIONER CLARK: There will be several
18 providers of last resort in that area. As long as you enter
19 that area you become a provider of last resort.

20 WITNESS TAYLOR: Well, except everybody but one
21 has a choice of whether entering -- I'm thinking of that as
22 a wire center, and everybody but one has the choice of
23 providing local service under your terms.

24 COMMISSIONER GARCIA: So BellSouth keeps making
25 money. And, in fact, what was the comparison --

1 COMMISSIONER CLARK: They don't lose the high
2 volume customers, they keep them.

3 COMMISSIONER GARCIA: They keep everybody.

4 WITNESS TAYLOR: No. Let's see, they keep local
5 exchange service, if no one else wants to provide it.
6 Though if you do have the universal service fund -- well,
7 no, I'm sorry. They do keep the local exchange customer,
8 but why is there -- why are they on a level playing field
9 vis-a-vis toll and ancillary services, unless the universal
10 service fund is keeping them whole for providing the loop?
11 Once you have done that, then I think I agree. The only
12 part that worries me is that one carrier has a choice of
13 whether to serve at all in the wire center and others don't.
14 That is an asymmetry that I'm not sure where --

15 COMMISSIONER GARCIA: The concept that was -- I
16 think was part of GTE's witness I thought was interesting.
17 His concept was sort of a gun to your head, participate or
18 die. Well, here are the rules in Florida. If you want to
19 be in Florida, if you want to do business in this highly
20 profitable market, then you become a carrier of last resort.
21 Whoever wants service gets it. And so you are able to
22 average it out. Clearly you are going to come into the
23 market in cream skimming and then you are going to have --
24 you are across the street from Bill Gates, you see the big
25 AT&T tower that he has got, the building, the lights, the

1 whole system. You say, hey, Tracy, give me one of those,
2 and he has got to give it to you.

3 WITNESS TAYLOR: Right. Well, what's wrong with
4 that, if anything, and I'm just shooting from the hip,
5 because we all are.

6 COMMISSIONER GARCIA: We all are, I think at this
7 stage.

8 WITNESS TAYLOR: In a sense, what you have -- one
9 thing that you have done is you have dropped a rule into
10 this competitive market that you want to be competitive,
11 which pertains to everybody equally, so I can't say that it
12 is anticompetitive or twisting the market. But it does slow
13 the day or whatever on which the market takes over all by
14 itself. That is --

15 COMMISSIONER GARCIA: Does it? It allows us to
16 continue to some degree to bring price to cost in a slow
17 manner, but at the same time it keeps those -- clearly, I
18 don't think you would argue that we have done a bad job as a
19 country, but particularly in Florida we haven't done a bad
20 job. You know, I think we have got good telecommunication
21 service at reasonable prices and we have got some
22 competition in certain areas. So it's not like there is a
23 cancer on this thing and we have got to remove it. It's
24 working. But as a nation we have made a paradigm shift we
25 think competition is good, whether it's good for us or not ,

1 that's where we are going.

2 WITNESS TAYLOR: Well, it's the direction we are
3 moving. We are not going to get up and change, but we are
4 going to move in a new direction.

5 COMMISSIONER GARCIA: Exactly. So, as we are
6 heading down this course, a course that is long, because we
7 have all talked about competition, beginning with myself,
8 you know, when I make this speech, competition is coming,
9 it's there, you know, yes, it's there somewhere. It's not
10 here yet. It's there for Bill Gates, it's there for the
11 high end customers and the business side, but the truth is
12 it's going to take awhile, a very long while. And, you
13 know, when I hear the GTE witness, that he said he can get
14 us going with half a billion dollars, you know, I want to
15 get up and join the company. And instead of thinking we get
16 there eventually, and by getting there eventually I know we
17 are trying to fix the bigger picture, and I understand --
18 and obviously you're talking to us way up here and you are
19 talking about theories and stuff. But I think Commissioner
20 Clark is making the point, and I think to some degree
21 Commissioner Johnson, it takes awhile. I mean, you know,
22 Judge Greene's decision was quite awhile ago, and I think we
23 would probably talk about real competition having occurred
24 in the last, what, four to five years in that market? I
25 mean, really good aggressive competition where you have all

1 sorts of --

2 WITNESS TAYLOR: All sorts of people calling you
3 at night to switch?

4 COMMISSIONER GARCIA: Harass you for that margin,
5 which is exactly what we want. And I think we both want the
6 same thing. But the problem is getting there in a flash
7 cut.

8 WITNESS TAYLOR: No. I mean, you will get there
9 in incremental steps. And it's not just a thing the
10 bureaucracies do; sensible people do that, too. The system
11 works and we don't have to change it overnight. You need a
12 path which can lead you incrementally to an improvement. A
13 universal service fund is useful in that sense, because it
14 doesn't have to be, it doesn't have to solve everything
15 overnight. You can take little steps in that direction if
16 you are worried about it. You also have other policies.

17 COMMISSIONER GARCIA: Doesn't that worry you,
18 though? The concept of -- and let me tell you how I
19 perceive it, and then correct me where I'm wrong. I see
20 Mr. Hatch and all the long distance guys there, they are
21 standing there and waiting for us, for the FCC, for the
22 courts that are deciding to put some finality into this
23 game, because they are smart players, they are not going to
24 -- you know, AT&T, for example, has tried to provide local
25 service in Atlanta. They are dying. They are losing their

1 shirt. So it's a difficult market because you don't know
2 what the margins are. So everybody is standing by and
3 watching this happen. And this Commission, and I think in a
4 good sense, this Commission is trying to stay ahead of the
5 curve, as I think it generally tries to do, and we have been
6 asked by the legislature to look at rebalancing. And so we
7 are looking at rebalancing to some degree. We are looking
8 at what has to be done. Let me not say rebalancing, because
9 that might not be the right word in the statute.

10 WITNESS TAYLOR: I love that word.

11 COMMISSIONER GARCIA: It may make my confirmation
12 in a few years a lot harder, but we are looking at how to
13 bring rates to a way that the loop pays for itself, and
14 these competitors can enter with an understandable risk.

15 WITNESS TAYLOR: Right.

16 COMMISSIONER GARCIA: With that said, all of
17 those things, all of those assumptions, I think, have to
18 change as we get there through time. So, maybe I've
19 answered my own question, but I think it is through little
20 steps, but doesn't it worry you that those little steps may
21 create an inequity that allows someone to step in and really
22 take advantage of the system?

23 WITNESS TAYLOR: Not so much that I would
24 hesitate to take the steps. I think knowing where you are
25 going, and my example in this would be the FCC back in 1984,

1 recognizing that they couldn't keep carrier access charges
2 at 17 cents a minute, took little steps. They brought in
3 the subscriber line charge at sort of 50 cents a pop over a
4 course of four or five years. They knew what the end
5 product was, they had a view of what rate rebalancing was
6 required, and they also had a view of sort of what pace they
7 could do it, at which they could do it without Congress
8 getting angry.

9 COMMISSIONER GARCIA: You would agree, though,
10 that all of these numbers that we are looking at are going
11 to dramatically shift as we move forward? In other words,
12 the half a billion dollars that GTE says it needs, and I'm
13 using them as an example simply because it's where we ended
14 up yesterday, and so I was thinking about it a long while.
15 The half a billion dollars where we begin today, if we make
16 some incremental step at getting there, so that we can open
17 up the market for AT&T, and MCI, and all the other players
18 that want to play, and perhaps open it up for GTE to come
19 into BellSouth and BellSouth to come into GTE.

20 WITNESS TAYLOR: Absolutely.

21 COMMISSIONER GARCIA: You would agree with me,
22 though, that even if this Commission or the legislature said
23 we need to rebalance, that half a billion dollars is by its
24 very nature not a static number. That that will change
25 because of technology, because of advances, because of

1 efficiencies, because AT&T decides it doesn't need the local
2 loop to provide service, or --

3 WITNESS TAYLOR: Sure. All of that and one more
4 thing besides. I mean, suppose technology changed or the
5 world shifted so that the half billion dollars or whatever
6 was just obscenely too much. That a universal service fund
7 of that size, and thus a tax of a nickel a minute, or a
8 nickel -- or 5 percent of revenue or whatever was just
9 really not necessary anymore. What would happen? What is
10 the consequences of that?

11 COMMISSIONER GARCIA: But it wasn't more than --

12 WITNESS TAYLOR: Well, whatever. I'm making it
13 up.

14 COMMISSIONER GARCIA: -- the tax was going to be
15 like half a billion dollars they were talking about, it was
16 about 33 percent in tax or 40 percent tax.

17 WITNESS TAYLOR: All right, 40 percent. What
18 happens if that is the circumstance and it's no longer
19 necessary. Is that the equivalent of, you know, the U.S.
20 Government taxing us that amount and the money just going to
21 Washington and disappearing, and it's a dead weight on the
22 market? The answer is no. The answer is no, because if the
23 fund does end up by being too large, either because you
24 screw up or because circumstances change, what happens? If
25 this is a fund where the carrier who gets the customer gets

1 to draw from the fund, and people are trying to supply no
2 end of services to these customers, that extra 33 percent is
3 going to get competed away? And your --

4 COMMISSIONER GARCIA: But it will still be there
5 artificially.

6 WITNESS TAYLOR: Oh, it will be there
7 artificially, yes. But what you will have is --

8 COMMISSIONER GARCIA: It will be going out of
9 someones pocket, but it will still be there as an incentive,
10 as a balancer, as a --

11 WITNESS TAYLOR: It will be a line item on the
12 bill. But what is going to happen is that prices that
13 customers pay for long distance and for ancillary services
14 and all of that are going to be competed down by just the
15 amount that the tax pulls it up. I mean, it's stupid, but
16 it's not venal.

17 COMMISSIONER GARCIA: Thank you.

18 CHAIRMAN JOHNSON: Any other questions,
19 Commissioners? Redirect?

20 MS. KEYER: No redirect. We would move Exhibit
21 68 to be inserted into the record.

22 CHAIRMAN JOHNSON: Show that admitted.

23 (Exhibit 68 admitted into the record.)

24 CHAIRMAN JOHNSON: Thank you, Mr. Taylor. You
25 are excused.

1 WITNESS TAYLOR: Thank you.

2 MR. WILLIAMS: I believe the next two witnesses
3 will be the Hatfield panel, and I would like to call Frank
4 Murphy and Tim Tardiff to the stand, please.

5 Your Honor, while Mr. Murphy is still standing
6 up, I do not think he has been sworn yet.

7 (Witness sworn.)

8 CHAIRMAN JOHNSON: You may be seated.

9 Thereupon,

10 FRANCIS J. MURPHY and TIMOTHY J. TARDIFF
11 were called as a panel of witnesses on behalf of GTEFL and,
12 having been duly sworn, testified as follows:

13 DIRECT EXAMINATION

14 BY MR. WILLIAMS:

15 Q Let me start with Mr. Tardiff. Doctor Tardiff,
16 excuse me. Doctor Tardiff, you have filed -- well, first of
17 all, can you state your name and business address, please?

18 A (Witness Tardiff) My name is Timothy J. Tardiff,
19 T-A-R-D-I-F-F.

20 MR. HATCH: Could we get him to move one seat
21 down? He is really lost over there.

22 A Any name is Timothy J. Tardiff, that is
23 T-A-R-D-I-F-F. I am with National Economic Research
24 Associates, 1 Main Street, Cambridge, Massachusetts 02142.

25 Q Doctor Tardiff, you have filed rebuttal testimony

1 in this case?

2 A Yes, sir.

3 Q And does that rebuttal testimony include an
4 analysis of the Hatfield model?

5 A Yes, it does.

6 Q And attached to that analysis are a number of
7 attachments, is that correct?

8 A That's correct.

9 Q I believe 13 in all. And that analysis of the
10 Hatfield paper has been authored by yourself and Mr. Murphy,
11 as well as others, is that right?

12 A That's correct.

13 Q I understand that Mr. Murphy has a few changes to
14 his testimony to the analysis, which we will get to in a
15 minute. Do you have any changes to your testimony?

16 A No, I don't.

17 Q One other thing, Doctor Tardiff. Are you aware
18 of a late-filed affidavit filed with the Commission on
19 October 12th, and sworn to by Gino W. Kim (phonetic)?

20 A Yes, I am aware of that.

21 Q And this relates to Mr. Kim's visit last week to
22 PNR?

23 A Yes, that's what the statement was about.

24 Q And does Mr. Kim report to you, is he one of the
25 near economists?

1 A Yes, he is. He works in one of our offices.

2 Q And to the extent there are any questions about
3 that affidavit, are you prepared to deal with them?

4 A Yes.

5 Q Thank you. Mr. Murphy, you too have filed
6 rebuttal testimony in this proceeding, is that right?

7 A (Witness Murphy) Yes, it is.

8 Q And you are the author, along with Doctor
9 Tardiff, of this analysis of the Hatfield model?

10 A That's correct.

11 Q And you have some corrections to your testimony
12 to that analysis, is that correct?

13 A Yes, that's correct.

14 Q Could you just tell us what they are.

15 A Yes. I have two corrections. The first one
16 affects my rebuttal testimony, as well as Exhibit TJT-2.
17 The rebuttal testimony on Page 5, Lines 1 and 2, is
18 affected. The Exhibit TJT-2, Pages 65, 97, and 113 of 347
19 are affected. The pages referenced above discuss the tandem
20 power investment in the HAI model. The referenced pages
21 state that there is no power investment for tandems in the
22 model. Recent analysis has been performed that indicates
23 the HAI model does, in fact, include power investment, but
24 this power is drastically understated. The model contains a
25 mere \$12,000 in power investment per tandem office. CHAI

1 Model Version 5.0a, File R5.0a, underscore switching,
2 underscore i0.XLS, Cell D4. This value is significantly
3 lower than the power investment included in AT&T's
4 collocation and transport incremental cost models.

5 Q Do you have any other changes to your testimony,
6 Mr. Murphy?

7 A Yes, there is one other correction. The cluster
8 design criteria in my rebuttal testimony, Page 9, Line 7
9 through 12. The question on Lines 7 through 12 should read
10 Section 5.5.1 of the HAI model documentation attached to Mr.
11 Woods' direct testimony as Exhibit DJW-2 states that the
12 cluster design criteria used by the HAI model constrains the
13 right angle distance from the cluster centroid to 18,000
14 feet, and the line size to 1800 lines.

15 Q Thank you, Mr. Murphy. Now, in connection with
16 your joint preparation of the analysis of the Hatfield
17 model, am I correct in understanding that you and Doctor
18 Tardiff have attempted to split up the areas of
19 responsibility?

20 A Yes, that's correct. There is a modified table
21 of contents that has been provided. That table of contents
22 designates with a D those areas that Doctor Tardiff will be
23 responding to, and an M those areas that I will be
24 responding to. And in a few cases we can jointly respond.
25 Those are designated as T/M. That is Exhibit 1 of -- that

1 is Exhibit TJT-1.

2 Q Thank you, Mr. Murphy. Could you now briefly
3 summarize your testimony?

4 A Yes, I will. I have been involved in the review
5 of the Hatfield model since approximately early 1997. And
6 what I have found is a systematic bias in the model designed
7 to produce low cost. This bias affects engineering
8 decisions that have been made, input decisions that have
9 been made, and customer location methodologies.

10 Some examples of the engineering flaws are drop
11 links are understated. They won't reach the houses that
12 they are supposed to be serving. Loop links are
13 insufficient to connect customers to their serving wire
14 center. The model uses obsolete technology. Industry
15 standard switch engineering practices are ignored. Power
16 investment is understated for both tandems and end office
17 switches, and it's nonexistent for circuit equipment.
18 Operation support systems are missing. Systems such as test
19 systems for both special access type services and parts type
20 services. Interoffice trunking requirements are drastically
21 understated.

22 I think one issue that has become obvious
23 throughout these hearings is that there is a fundamental
24 question between the HAI and the BCPM model with respect to
25 the number and sizes of DLC remote terminals that the two

1 models employ. I think one question that you could
2 legitimately ask is whether the Hatfield model deploys too
3 few and too large DLC remote terminals, or conversely, does
4 the BCPM deploy too many and too small DLC remote terminals.
5 I would submit to you that the BCPM model is the more
6 correct of the two.

7 The few and large DLC terminals that are being
8 deployed in the Hatfield model are inappropriate as a
9 forward-looking architecture for a number of reasons. The
10 first reason is the HAI's failure to adhere to the 12,000
11 foot customer serving area standard. The second reason is
12 that the Hatfield model deploys outdated T-1 copper based
13 DLC. That is a 25 year old technology that essentially
14 nobody in this country is deploying at this time.

15 Recently, comments were filed by the Rural
16 Utility Services with the FCC. In a filing made on
17 September 24th, 1997, on Page 3, the Rural Utility Services
18 states, "More important, no one is installing new copper T-1
19 systems in rural America today except in a few cases on
20 existing plant." Traditional T-1 copper based subscriber
21 carrier is not a modern technology, and yet those rural
22 areas are precisely where the Hatfield model is deploying
23 T-1 on copper.

24 A more appropriate architecture would be to
25 deploy fiber based DLC with a small remote terminal. If you

1 do that, and you have future demand in those rural areas,
2 for example, for advanced services, then accommodating that
3 demand is a simple matter of changing out the electronics on
4 either end of the fiber-optic cable. Whereas, if you have
5 T-1 on copper out there, you've got to go string more cable
6 along the telephone poles or bury it in the ground. And
7 what's more, the electronics that you take off and replace
8 you can use elsewhere in your network. The standard of
9 service would be much higher.

10 An additional reason that the Hatfield model
11 deploys too few and too large DLC units is because they do
12 such a poor job in the MST analysis. If that MST problem
13 were corrected, then it's obvious that the constraint on the
14 carrier serving area, whether it be a 12,000 or an 18,000
15 foot constraint, which ultimately this Commission will
16 decide, then that constraint will come into play far more
17 often and more DLCs, and smaller DLCs will be placed.

18 Another reason that the Hatfield model doesn't
19 build enough DLC units is because it builds -- is because it
20 fails to build to housing units. Now, I heard Mr. Wood
21 earlier trying to lead this Commission to believe that
22 vacant housing unit are things like dilapidated buildings
23 and barns. I would suggest to you that that is not the
24 case. Census Bureau data in this country suggest that at
25 any given point in time just over 10 percent of the living

1 units are going to be vacant. We have an active real estate
2 market in this country, and I would think Florida in
3 particular would have significant turnover and significant
4 seasonal vacancies.

5 I know lot of people from the northeast spend
6 their summers in Florida. When those folks go back to the
7 -- excuse their summers -- their winters in Florida. When
8 those folks go back to the northeast, the housing units are
9 vacant. The telephone lines are turned off. When they come
10 down again in the fall, they want service. With the
11 Hatfield network, there would be no facilities available
12 there to turn that service on. You would have to go out and
13 build it.

14 I also heard a discussion that some of the
15 documents I have in front of me, the outside plant systems
16 handbook originally --

17 MR. MELSON: Commissioner Johnson, I'm going to
18 have to object. This is going beyond the scope of his
19 prefiled testimony. He is now doing live rebuttal to things
20 he has heard in the hearing room over the past couple of
21 days, and it is way beyond the scope of his prefiled
22 testimony.

23 MR. WILLIAMS: Your Honor, I think it's totally
24 fair. A number of other witnesses have addressed other
25 issues that have come up. There are obviously things that

1 this Commission should hear about if you listen to the
2 testimony. I think it's helpful to hear what Mr. Murphy has
3 to say about these issues, and it may be that it's going a
4 little bit beyond, and I won't disagree with that, but I
5 think it is an issue that has got to be resolved, and I
6 don't see a better way to do it.

7 CHAIRMAN JOHNSON: You need to stay within the
8 four corners of your testimony that was filed. And to the
9 extent that questions come out and things --

10 MR. WILLIAMS: Oh, let me -- it is certainly
11 within the four corners of his testimony.

12 CHAIRMAN JOHNSON: His prefiled testimony? He is
13 supposed to be summarizing.

14 MR. WILLIAMS: Yes, and absolutely. And the
15 point is whether or not we should be guided by generally
16 accepted engineering standards and what those are. He may
17 have prefaced it in view of testimony of other witnesses,
18 but a substantial part of Mr. Murphy's testimony, he is an
19 engineer, and he is here to testify about what are generally
20 accepted engineering and design practices in the industry,
21 which is precisely the issue that this Commission has to
22 resolve.

23 CHAIRMAN JOHNSON: Let me just caution the
24 witness that you need to -- this is supposed to be a summary
25 of your testimony, and it is helpful for the Commissioners

1 to have that summary, but stay within the boundaries of your
2 prefiled.

3 WITNESS MURPHY: I will do that.

4 A (Witness Murphy) I have before me two documents
5 that I consider to be generally accepted engineering
6 practices. The first one is the Outside Plant Engineering
7 Handbook published by Lucent Technologies. The date on the
8 cover of this book is October of 1996. I purchased this
9 book at approximately this time last year. In preparation
10 for these hearings, we contacted the folks at Lucent
11 Technologies to try to assure ourselves that we had the most
12 current version of the book. Their statements to us were
13 that this was indeed the latest version of the book, and
14 that they do indeed keep it up. And that if I wanted to pay
15 a fee, I could get on a mailing list and they would send me
16 updates as they are produced. And I would like to read for
17 you an excerpt from that guideline. At Page 3-11, it
18 describes interfaced cable sizing guidelines, which is the
19 guideline that's used for distribution design. Interface
20 secondary cables are sized for the ultimate pair
21 requirements. Accepted standards for pair allocations are
22 as follows: Residential, two pairs per living unit. There
23 are occasions when fewer than or more than two pairs per
24 living unit are the optimum choice.

25 MR. MELSON: Commissioner Johnson, he is reading

1 from a document that I don't believe is attached to his
2 testimony. I don't believe he has quoted from it in his
3 testimony. He is beyond the scope, again. I mean, if he
4 wanted to put this book in there was a time to do it and the
5 time is not at 6:15 on the third day of the hearing.

6 MR. WILLIAMS: Well, let me just note for the
7 record that that is in his testimony. One of our bases of
8 criticisms of the Hatfield model is the number of pairs that
9 it builds to the households, and one of the things that we
10 cite to in Mr. Murphy's testimony is the AT&T Outside Plant
11 Engineering Handbook. It is right in his testimony. And I
12 think that's all he is talking about right now.

13 MR. MELSON: I think there is a difference
14 between citing to it and quoting from it.

15 MR. WILLIAMS: Well, if this helps at all, we
16 quote in his testimony, in the analysis. But at any rate.

17 CHAIRMAN JOHNSON: It is late, sir, and you do
18 need to summarize the testimony that was filed.

19 WITNESS MURPHY: I'll be brief, and close in that
20 case. The final document, the Bellcore Notes on the
21 Network, which I also cite in my testimony. This is
22 Issue 3, dated December of 1997. Also a current document.
23 And it could not be more clear at Page 7-71, that the
24 evolution to a network that can readily provide digital
25 services via loop facilities lead to the carrier serving

1 area concept.

2 It goes on and describes that as limiting the
3 copper loop distance beyond DLCs to 12,000 feet. And it
4 clearly is presented in this publication as superseding the
5 revised resistance design standard that is the very standard
6 that the Hatfield people use and cite in the HIPS (phonetic)
7 document as justification for an 18,000 foot loop. I will
8 close with that.

9 BY MR. WILLIAMS:

10 Q Thank you, Mr. Murphy. One final thing. I
11 neglected to ask you to provide your business affiliation
12 and address. You wouldn't be from Boston, would you?

13 A (Witness Murphy) That's correct. My business
14 address is 5 Cabot Place, Suite Number 3, Stoughton,
15 S-T-O-U-G-H-T-O-N, Massachusetts, 02072.

16 Q Thank you, Mr. Murphy. And, Doctor Tardiff, do
17 you have a very brief summary of your testimony?

18 A (Witness Tardiff) Yes, I do. Good evening,
19 Commissioners. It's nice to be in Florida, even in the
20 evening. My testimony demonstrates that the HAI or Hatfield
21 model does not produce valid costs for GTE or any other
22 Florida local exchange carrier. And as a result it should
23 not be the basis for sizing the universal service fund or
24 any other pricing decision that involves costs.

25 Rather than represent economic costs, the

1 Hatfield model depicts a fictitious firm with cost levels
2 that cannot be achieved by a real firm providing local
3 service. In so doing, it violates both the economic
4 definition and the FCC's definition of what a long-run study
5 does. A long-run study uses current technology at current
6 prices. In contrast, the Hatfield model uses speculative
7 technology at speculative future prices. Examples of
8 speculative future prices are the level of sharing. The
9 Hatfield proponents will tell you that LECs do not share at
10 that level now, but they may sometime in the future. And
11 the problem with using speculative prices that may or may
12 not come true in the future is that no firm can recover its
13 costs if it is basing its prices on conditions that may
14 occur in the future. What will happen is it will lose money
15 until that time, if and when it meets the conditions assumed
16 by those future conditions.

17 Now, this brings me to the question of what is
18 the purpose of a cost study in this proceeding and in other
19 proceedings. A proper cost model would produce costs and
20 prices for an efficient firm. In contrast, using costs and
21 prices that are artificially low would cause several
22 problems to competition. First of all, as I just alluded
23 to, the firm supplying the services that are price based on
24 improperly low costs would lose money and they won't be able
25 to make it up in the volume. Secondly, the buyers of

1 certain of these services, for example, the buyers of
2 unbundled network elements at low prices would certainly
3 benefit. AT&T and MCI would like to have access prices as
4 low as possible. But as Commissioner Garcia noted
5 yesterday, competition from new facilities-based entrants
6 would be discouraged in the process. If a firm can buy
7 stuff from an incumbent and compete on that basis, they are
8 discouraged from building their own facilities. And
9 interestingly enough, this type of a situation actually
10 increases the amount of cross-subsidy in the system, and
11 this time it's cross-subsidies to these buyers of
12 artificially low services. And that in part explains the
13 difference between Mr. Seaman's chart between the difference
14 the costs and prices of local service versus the amount of
15 implicit subsidy.

16 And finally and most importantly, basing a
17 pricing decision on artificially low costs in the case of
18 universal service will result in an inadequate fund. And
19 that inadequate fund will delay the onset of local
20 competition outside of low cost areas, in particular
21 residential customers outside low cost areas will be less
22 likely to experience the benefits of competition.

23 How do we know the Hatfield model produces low
24 costs? I think one of the major themes of my testimony is
25 the issue of validation. The notion that you have to

1 compare the results of a cost study or a cost estimate
2 against valid and known external information. And my
3 testimony in our report offers at least two forms of
4 validation. One is the comparison of the cost levels
5 produced by the Hatfield model against current costs as
6 reflected in ARMIS data.

7 The Hatfield model produces less than half of the
8 expenses and investments GTE currently incurs. What that
9 means is that if you believe the Hatfield model, the firms
10 serving GTE's territory could charge less than half than GTE
11 does now and still do okay. That to me is an inconceivable
12 outcome. GTE or any other local exchange carrier in Florida
13 could not be this inefficient given the regulatory oversight
14 and the cost cutting incentives that it faces today.

15 The other area of validation we looked at was the
16 design of distribution areas. And this get into this whole
17 business about minimum spanning tree or MST analysis. I'm
18 not going to go into any great detail now, we have heard a
19 lot. But our conclusions reinforce what we saw in other
20 areas, that the Hatfield model produces too little outside
21 plant in low density areas. And in interpreting the MST
22 analysis, I would just like to add the thought that the MST
23 is the absolute minimum level that needs to be provided. In
24 the real world there are factors that would increase that
25 amount by a fair amount. For example, if you take into

1 account that roads and streets are constructed at right
2 angles, that adds at least about 30 percent more to what
3 airline distance would provide. And then you add obstacles
4 in there, barriers and the like, and you have added even
5 more. So the fact that the model falls short in these low
6 density areas on an MST standard suggest that it's even
7 further when you look at realistic benchmarks.

8 The other thing that I mention, which I think is
9 kind of interesting in this regard is that in these low
10 density areas the average lot size is large. That among
11 other things suggests that if you implement the suggestion
12 yesterday that one way to overcome the lack of distribution
13 facilities is to extend the cable out to the edge of the
14 serving area by adding one lot length, you are going to add
15 quite a bit more area and increase the cost. I report in my
16 testimony that the average lot size over all clusters is 15
17 acres. That is a lot that is 570 feet on one dimension and
18 twice as long on the other, so that would encompass a lot of
19 area if you extended the routes out to the edge of the
20 serving areas.

21 Let me just close by touching on another theme in
22 the paper, and that is we discuss the evolution of the
23 Hatfield model from its initial incarnation Version 2.2.2
24 that appeared in the arbitration in this state, to Version
25 5.0, and what we saw is that 2.2.2 by this Commission's

1 judgement produced costs that were too low for GTE. Version
2 5.0 produced loop costs that are even lower. And in a sense
3 this is a fairly puzzling result, because if you look at one
4 of the main criticisms of Version 2.2.2, that was that its
5 design of distribution area was totally inadequate, and why
6 was that? Well, 2.2.2 designed distribution areas that
7 placed too few cables, and these cables were large in size.
8 And as a consequence it had way too few route miles, and
9 route miles determine things like need for telephone poles,
10 conduits, the very types of support structure that are
11 needed to carry the wires where they need to go.

12 Hatfield 5.0 has substantially more route miles
13 and yet the costs have not increased. In fact, they appear
14 to have decreased. Why is that? Well, if you look at the
15 inputs to the model, the input prices for structures, poles,
16 conduit, and the like have decreased on average enough to
17 basically offset the increase in route miles. Another
18 example that may explain the lower costs is that cable
19 prices in larger sizes have decreased, as well. What is
20 interesting about this is that those structures and cable
21 prices are very basic things that are based on -- input
22 prices for which are based on engineering judgment that
23 appears to have changed quite drastically over the year or
24 two since the various versions of the model, and that
25 suggests something about the process that the inputs were

1 developed. That is the process seems to be one in which
2 certain low values have been chosen, certain sources have
3 been used in a selective way, and we get that in our
4 testimony.

5 For all of these reasons, that is that the model
6 produces unrealistic results and does not meet test
7 validation, we have concluded that it does not form the
8 proper basis for establishing costs and prices for
9 telecommunications services in the State of Florida. Thank
10 you.

11 MR. WILLIAMS: Thank you, Doctor Tardiff. Your
12 Honor, I would move the admission of Doctor Tardiff's
13 rebuttal testimony, which includes two exhibits, the second
14 exhibit having 13 attachments, and I would also move the
15 admission of Mr. Murphy's rebuttal testimony.

16 CHAIRMAN JOHNSON: The testimony will be inserted
17 into the record.

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GTE FLORIDA INCORPORATED
DIRECT TESTIMONY OF DR. TIMOTHY J. TARDIFF
DOCKET NO. 980696-TP

Q. PLEASE STATE YOUR FULL NAME AND ADDRESS.

A. My name is Timothy J. Tardiff. My business address is 1 Main Street, Cambridge, MA 02142.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by National Economic Research Associates, Inc. ("NERA") as Vice President.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND WORK EXPERIENCE?

A. I received a B.S. degree from the California Institute of Technology in mathematics (with honors) in 1971 and a Ph.D. in Social Science from the University of California, Irvine in 1974. From 1974 to 1979, I was a member of the faculty at the University of California, Davis. I have specialized in telecommunications policy issues for the last 17 years. My research has included studies of the demand for telephone services, such as local measured service and toll, analysis of the market potential for new telecommunications products and services, assessment of the growing competition for telecommunications services, and evaluation of regulatory frameworks consistent with the

1 growing competitive trends. I have extensive experience as a
2 consultant and expert witness in regulatory proceedings.

3

4 **Q. DR. TARDIFF, BRIEFLY DESCRIBE "NERA."**

5 A. NERA provides research and analysis of economic and financial
6 issues arising in litigation, regulation, public policy, and management.
7 Established in 1961, NERA is an international firm of consulting
8 economists recognized for its work in antitrust matters, energy,
9 securities litigation, telecommunications, employment and
10 discrimination, intellectual property, environment, health,
11 transportation, international trade and sports.

12

13 **Q. HAVE YOU PREVIOUSLY PRESENTED TESTIMONY BEFORE**
14 **STATE REGULATORY COMMISSIONS?**

15 A. Yes. I have filed testimony and reports on behalf of Pacific Bell
16 before the California Public Utilities Commission on incremental cost
17 principles, rules for local competition, universal service funding, open
18 access and network architecture, regulation of wireless
19 telecommunications services, the treatment of accounting changes for
20 post-retirement benefits under price caps, the review of California's
21 price cap plan, and flexible pricing for Centrex service. I undertook
22 studies and submitted reports on behalf of Pacific Bell before the
23 Federal Communications Commission on price cap productivity,
24 access to intelligent networks, interconnection pricing policies, and
25 the treatment of accounting changes for post-retirement benefits

1 under price caps. I have also testified for GTE North on intraLATA
2 presubscription before the Illinois Commerce Commission, and filed
3 a report with the New York Public Service Commission on intraLATA
4 presubscription on behalf of New York Telephone. Recently, I
5 testified in state proceedings and/or arbitrations (pursuant to the
6 Telecommunications Act of 1996) on local network unbundling and/or
7 Universal Service in the District of Columbia, Maryland, California,
8 New York, Pennsylvania, Texas, Missouri, Oklahoma, Indiana,
9 Massachusetts, North Carolina, Virginia, Kentucky, Kansas,
10 Arkansas, New Jersey, Maine, Vermont, Alabama, and South
11 Carolina. During these proceedings, I have raised my concerns about
12 the HAI Consulting, Inc. Model Version 5.0a ("HAI Model," "Model,"
13 or "HAI 5.0a") and previous versions of this Model.

14
15 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY AND HOW IS IT**
16 **ORGANIZED?**

17 **A.** The purpose of my testimony is to offer a critique of the economic and
18 certain engineering aspects of HAI 5.0a, which AT&T and MCI have
19 submitted in this docket through the testimony and exhibits of Mr. Don
20 J. Wood. This critique was developed jointly by NERA and Network
21 Engineering Consultants, Inc. ("NECI"). My testimony consists of both
22 the attached paper (Exhibit TJT-2), "Analysis of the HAI Model
23 Release 5.0a" ("*Analysis*") and the questions and answers presented
24 here. Exhibit TJT-1 in the question and answer section of my
25 testimony is a modified copy of the Table of Contents from the

1 *Analysis*. This Exhibit will help the Commission and counsel when
2 directing their questions regarding the *Analysis* to either me or GTE
3 witness Murphy of NECI, as appropriate. In addition, I am responding
4 to the Direct Testimony of MCI witness James W. Wells.

5

6 **Q. HAVE YOU REVIEWED THE HAI MODEL, INCLUDING THE MOST**
7 **RECENT VERSION 5.0a, FILED IN THIS PROCEEDING?**

8 A. Yes. Over the past two years, NERA has extensively analyzed and
9 evaluated various versions of the Hatfield Model, which is now called
10 the HAI Model, to determine whether the Model is appropriate to use
11 in establishing universal service obligations.

12

13 **Q. CAN YOU BRIEFLY SUMMARIZE THE FINDINGS OF YOUR**
14 **REVIEW OF THE HAI MODEL?**

15 A. Yes. Based on our review of the HAI Model, including the most
16 recent version, we have concluded that HAI 5.0a, like its
17 predecessors, is subject to numerous economic and engineering
18 flaws that are so severe as to render the Model unusable for its
19 intended purpose. Accordingly, we recommend that this Commission
20 not adopt HAI 5.0a as the model for determining the cost of providing
21 basic local service for the Legislature's use in establishing universal
22 service obligations.

23

24 **Q. DO YOU AGREE WITH MR. WOOD'S RECOMMENDATION (at 4)**
25 **THAT THE HAI MODEL BE ADOPTED BY THIS COMMISSION FOR**

- 1 **PURPOSES OF DETERMINING UNIVERSAL SERVICE FUNDING?**
- 2 A. No. Since its introduction, the HAI Model has proven to be highly
3 unreliable. Twelve different versions of the Model have been
4 released since May 1996. The revised versions were necessary
5 because of significant, identified errors in each successive version of
6 the Model. Yet, the Model's sponsors have presented each version
7 as accurate and reliable in regulatory proceedings. Our analysis of
8 HAI 5.0a has found the following shortcomings in the Model:
- 9 1. The Model is practically insensitive to structural changes. Over
10 the last twenty months, the modeling techniques and input data
11 have changed significantly with the bottom line remaining almost
12 the same.
 - 13 2. The Model's input database remains flawed although it has
14 undergone extensive preprocessing, and it is still neither user-
15 adjustable nor open for inspection by third parties.
 - 16 3. Many of HAI 5.0a's default inputs are not supported by the
17 empirical data that the modelers themselves solicited. Indeed, the
18 empirical data supports default inputs that are significantly higher
19 than the values used in HAI 5.0a.
 - 20 4. The Model's sponsors fail to provide external or internal
21 justification of the Model's validity, which should cause regulators
22 to mistrust its outputs. Its predictions of current investments and
23 costs do not comport with real data, and it is incapable of
24 estimating the appropriate costs of producing telecommunications
25 services using the most efficient forward-looking technology.

1 5. The Model does not accurately reflect how a telecommunications
2 firm operating in the real world would efficiently provide services
3 and network elements for new entrants or even for its own retail
4 customers, especially a firm operating in the environment fostered
5 by rapid technological change, increased risk, and competitive
6 atmosphere that is resulting from the Telecommunications Act of
7 1996.

8 The Model's cost estimates suggest that in a forward-looking
9 environment, GTE Florida should incur 40 percent of its current
10 Telephone Plant In Service ("TPIS") cost and 30 percent of its current
11 total operating expenses. Forward-looking costs and current costs
12 will not necessarily match dollar-for-dollar. Nevertheless, a model that
13 produces forward-looking costs that are less than one-half of GTE's
14 costs is simply not credible. There are fundamental inaccuracies in
15 many of the engineering assumptions: important costs have been
16 inappropriately excluded; some input prices are too low; the loop, as
17 designed, does not function; the switch cost assumptions are
18 inaccurate; and components of 911 and other services are not
19 included. With these and many other flaws, it is clear to me that the
20 HAI Model is not a reliable tool for estimating costs.

21

22 **Q. HAVE YOU DONE ANY OF THE SAME CHECKS ON BCPM 3.1?**

23 A. Yes. Our analysis here has not been as extensive as for HAI 5.0a.
24 However, to the extent that a model comports well with reality, I can
25 support it without extensive analysis. As an external validity test, I

1 made the same comparisons to ARMIS expense and investment
 2 accounts and to reproduction costs as I did for HAI 5.0a. The results
 3 for HAI 5.0a are detailed in the attached *Analysis*. For BCPM, I
 4 found that it comports significantly better than does HAI 5.0a. Thus,
 5 I can certainly recommend BCPM over HAI 5.0a. However, I believe
 6 that company specific models rather than proxy cost models are the
 7 appropriate standards to use for costing USF and UNEs. The chart
 8 below contains the results of my comparison (using 1996 ARMIS
 9 data) of GTE's reported investment and expenses to those produced
 10 by the HAI Model and the BCPM.

11	<u>Category</u>	<u>Actual</u>	<u>HM 5.0(a)</u>	<u>BCPM 3.1</u>	<u>HM/Actual</u>	<u>BCPM/Actual</u>
12	Total	3,785,206	1,498,682	2,442,449	40%	65%
13	Plant Specific Expenses	228,238	78,687	120,350	34%	53%
14	Plant Non-Specific Operations	455,574	137,006	309,620	30%	68%
15	Corporate Operations	161,487	37,925	58,022	23%	36%
16	Total Operating Expenses	845,299	253,618	487,992	30%	58%

17 The reproduction comparison is in the chart below.

18	<u>Category</u>	<u>Reproduction</u>	<u>HAI 5.0a</u>	<u>BCPM 3.1</u>	<u>HAI/Repro.</u>	<u>BCPM/Repro.</u>
19	Total TPIS	\$3,969,817	\$1,498,682	\$2,442,449	37.8%	61.5%

20
 21 **Q. MR. WOOD STATES (at 4) THAT "ACTUALLY LOCATING**
 22 **CUSTOMERS IS ESSENTIAL" FOR A COST MODEL. DOES HAI**
 23 **5.0a ACTUALLY LOCATE CUSTOMERS?**

24 **A.** No. The HAI Model's developers claim that one major change
 25 between HAI 5.0a and its predecessors is a fundamental revision of

1 the customer location methodology. They overstate this assertion,
2 however. Our analysis of HAI 5.0a's revised customer location
3 approach concluded that this approach does *not* provide significant
4 improvements over the alternative approaches taken in earlier
5 versions of the Model. Geocoding, as implemented in the HAI Model,
6 does not accurately locate customers because of four significant
7 shortcomings: (i) the success rate for geocoding is extremely low,
8 especially in rural areas, (ii) the databases used to geocode are
9 neither complete nor reliable, (iii) the geocoded locations are
10 clustered before the Model designs the network architecture; and (iv)
11 HAI's "surrogate" method of locating customers is completely
12 arbitrary. Each of these points is detailed in the attached *Analysis*.

13
14 **Q. SHOULD THIS COMMISSION BE INFLUENCED BY MR. WOOD'S**
15 **REFERENCE (at 5) TO TWO STATE COMMISSIONS THAT HAVE**
16 **ADOPTED PARTS OF THE HAI MODEL?**

17 **A.** No. While Mr. Wood eagerly mentions state commissions that have
18 partially adopted the HAI Model, he fails to mention the states that
19 have rejected the Model. Just as Mr. Wood cites support for the
20 Model, I can cite opposite positions taken by state commissions in
21 states such as Nebraska, North Carolina, South Carolina, and
22 California.

23
24 In a universal service support arbitration proceeding, the Nebraska
25 Public Service Commission rejected the HAI Model, finding that the

1 HAI platform does not fully "ensure a quality network in high cost
2 areas . . . that is technically comparable to the network found in urban
3 areas". (Nebraska Public Service Commission Order, Docket No. C-
4 1633 (May 22, 1998) at 3.)

5
6 The Model also was rejected by the North Carolina Utilities
7 Commission over "concerns regarding the geocoding method used by
8 the Hatfield Model 5.0" and "whether costs for [extended range] line
9 cards have been included in the model". (State of North Carolina
10 Utilities Commission, Order Adopting Forward-Looking Economic
11 Cost Model and Inputs, Docket No. P-100, Sub 133b (April 20, 1998)
12 at 13.)

13
14 The South Carolina Commission rejected the Model stating that "the
15 [HAI 5.0a] geocoding process is grossly inadequate for the large, rural
16 areas" and "not all of the HAI 5.0a engineering assumptions are
17 obvious to the user nor can they readily be changed". (The Public
18 Service Commission of South Carolina, Docket No. 27-239-C-Order
19 No. 98-322 (May 6, 1998) at 40 and 50.)

20
21 On February 19, 1998, the California Public Utility Commission
22 rejected an earlier version of the HAI Model, Version 2.2.2, citing
23 several important deficiencies. (See D.98-02-106, Interim Decision
24 Adopting Cost Methodology, Evaluating the HAI Computer Model, and
25 Deciding Other Issues Related to Cost Studies of Pacific Bell's

1 Sys .m (Feb. 19, 1998)) HAI 5.0a is only slightly different from this
2 previous version. Most of the problems cited by the California
3 Commission have not been corrected. This is because the underlying
4 design of the HAI Model essentially precludes the possibility of
5 correcting them. One basic difficulty is that the HAI Model was not
6 populated, and was never intended to be populated, with data and
7 inputs that are specific to the ILECs' networks.

8

9 **Q. HAS THE FLORIDA COMMISSION CONSIDERED THE HAI MODEL**
10 **BEFORE?**

11 **A.** Yes. MCI and AT&T, also through the testimony of Don Wood, urged
12 the Commission to adopt the HAI Model (called the Hatfield Model at
13 the time) in their respective "interconnection arbitrations" with GTE.
14 As noted below, this Commission soundly rejected the Hatfield Model
15 Version 2.2 in the arbitrations involving GTE, AT&T, and MCI. (Order
16 No. PSC-97-0064-FOF-TP (Jan. 17, 1997) at 35.) In rejecting the
17 Hatfield Model, the Commission held that:

18 [u]pon consideration of the evidence, we find
19 that the Hatfield Model does not produce
20 estimated costs which are representative of the
21 costs of GTEFL's network in Florida. The model
22 does not represent any one specific LEC
23 network, but was designed to be adaptable to
24 any LEC or geographic area. . . . Moreover .
25 . . our review leads us to conclude that the

1 Hatfield Model appears to understate costs.

2 Although it has progressed from Version 2.2 to Version 5.0a, the HAI
3 Model continues to have the same flaws that made it unacceptable to
4 this Commission in 1997. The Commission should similarly reject the
5 HAI Model in this proceeding.

6

7 **Q. DO YOU AGREE WITH MR. WOOD'S CONCLUSION (at 7) THAT**
8 **THE HAI MODEL "REPRESENTS THE MOST ACCURATE AND**
9 **VERIFIABLE COSTS FOR UNIVERSAL SERVICE COST**
10 **CALCULATIONS"?**

11 A. No. First, Mr. Wood does not provide any explanation, evidence, or
12 backup for his conclusions. Without the details of his analysis, I
13 cannot pinpoint Mr. Wood's misunderstanding of the topic. Second,
14 as discussed above, NERA's and NECI's intensive research and
15 analysis of the HAI Model have uncovered a wide array of economic,
16 engineering, and modeling errors that render the model unfit for its
17 intended purposes.

18

19 **Q. DO YOU FIND THE MODEL TO BE "BASED ON THE PRINCIPLES**
20 **OF PUBLIC ACCESS AND COMPLETE DISCLOSURE" AS MR.**
21 **WOOD (at 10) CLAIMS?**

22 A. No. I am sure Mr. Wood is well aware that major portions of the HAI
23 Model are considered proprietary, intellectual property, or confidential.
24 More specifically, this includes the development process of the HAI
25 database – a crucial component in the cost calculations, as Mr.

1 Wood agrees in his testimony. Details about what parts of the Model
2 are closed for external review are documented in the attached
3 *Analysis*.

4

5 **Q. MR. WOOD (at 12) STATES HIS BELIEF THAT HAI 5.0a**
6 **SATISFIES THE TEN CRITERIA IN THE FCC'S UNIVERSAL**
7 **SERVICE ORDER. DO YOU AGREE?**

8 A. No. As detailed in Appendix B of the *Analysis*, the HAI Model fails to
9 satisfy most of the criteria.

10

11 **Q. PER MR. WOOD, HAI 5.0a CONTAINS ADDITIONAL**
12 **CAPABILITIES FOR "DYNAMIC MODELING." DO YOU AGREE?**

13 A. No. Mr. Wood's statement is an exaggeration. He lists as an
14 example of this dynamic modeling the "Buried Fraction Available for
15 Shift" (input 2.5.2 in the HAI Inputs Portfolio attached to Mr. Wood's
16 testimony). He claims that this input ensures "that the most efficient
17 structure type is used in a given area." What Mr. Wood fails to
18 mention is that this input does not have any impact on the cost results
19 of the Model. We have conducted sensitivity analyses on this variable
20 and showed that the effects of this variable on the forecasted loop
21 costs were smaller than .0035 percent.

22

23 **Q. PLEASE COMMENT ON MR. WOOD'S STATEMENT THAT THE**
24 **MODEL IS ABLE TO NORMALIZE RESIDENTIAL AND BUSINESS**
25 **LINE COUNTS AT THE WIRE CENTER LEVEL.**

1 A. Mr. Wood is correct that a normalization of the line count can be done
2 in the Model, but this is basically irrelevant. The ILEC wire center line
3 count has to be reflected *prior* to the development of the database.
4 This means that if the HAI Model were to reflect actual wire center line
5 counts, the entire HAI database would have to be redeveloped –
6 hardly a task that can be done by the user.

7
8 **Q. THE MODEL DESCRIPTION OF HAI 5.0a STATES THAT NO**
9 **CLUSTER WITH A NON-ZERO AREA MAY EXCEED 1,800 LINES**
10 **IN SIZE. IS THIS REALLY HOW HAI 5.0a WORKS?**

11 A. No. A cluster with non-zero area is not treated as a single hi-rise
12 building. (HAI 5.0a designates clusters as a single hi-rise when they
13 have an area of less than .03 square miles and more than 30,000
14 lines per square mile.) In GTE Florida's serving area, there are 254
15 clusters with a non-zero area and a line count exceeding the 1,800
16 line threshold. The highest line count I observed for GTE Florida is
17 4,132 lines – clearly above the threshold.

18
19 **Q. WHAT ARE THE RAMIFICATIONS OF THIS INCONSISTENCY?**

20 A. Per the modelers, a cluster that exceeds the 1,800 line threshold
21 exceeds the capacity of the largest DLC remote terminal, which raises
22 concerns about the Model's code if the program produces results that
23 the developers claim are impossible.

24
25

1 Q. IN SECTION VI.A. OF THE ATTACHED ANALYSIS, YOU
2 DEMONSTRATE THAT HAI 5.0a DOES NOT PROVIDE
3 SUFFICIENT DISTRIBUTION CABLE IN THE STATES OF
4 MINNESOTA, TEXAS, AND WASHINGTON. DID YOU DO A
5 SIMILAR STUDY FOR THE STATE OF FLORIDA?"

6 A. Yes, I did.

7
8 Q. PLEASE DESCRIBE YOUR STUDY AND TELL US WHAT THE
9 RESULTS WERE FOR FLORIDA.

10 A. Using an algorithm developed by Stopwatch Maps, Inc. that runs on
11 Map Info (mapping software), we calculated a Minimum Spanning
12 Tree ("MST") for all clusters in GTE Florida's serving territory. An
13 MST is a mathematical graph theory construct used to connect a set
14 of points in a network at the least possible distance. The MSTs
15 generated by Stopwatch Maps' algorithm was used as the *low-end*
16 benchmark to assess the results of the PNR/HAI data and algorithms.
17 (PNR and Associates, Inc. provides the customer location input
18 database that HAI uses.) As Dr. Wood (at 20) correctly points out in
19 his testimony, "one must consider not only the branch and backbone
20 cable produced by the model, but the drops as well" Therefore,
21 to make a valid comparison, we calculated the drop length included
22 in the HAI Model in addition to the Distribution Route Distance
23 ("DRD"). Next, the ratio of the length of each MST to the modeled
24 distribution distance plus drop was calculated for the same cluster
25 and summarized by density zone and by wire center.

1 Based on the results of this analysis, we determined that 11.0 percent
2 of the clusters in GTE Florida's service areas contain less distribution
3 plant than is physically necessary to connect the existing customers.
4 In 77 clusters (3.7 percent), the PNR/HAI algorithm produces
5 estimated lengths that are less than 50 percent of the minimal plant
6 necessary. When looking at the clusters contained in the lowest
7 density zone, this flaw occurs in 46 clusters (92 percent) and
8 underestimates distribution plant by at least 43 percent. In the
9 second lowest density zone, 85 clusters (39 percent) have less route
10 mileage than is physically necessary to connect customers.

11

12 This is further complicated by the fact that the MST is a low-end
13 benchmark. The line segments of an MST run directly from one point
14 to another and do not represent the actual amount of DRD required
15 to connect customers as the MST ignores geographical features such
16 as rivers, swamps, and rights-of-way.

17

18 Thus, the HAI Model severely underestimates outside plant required
19 for the provision of service to customers. Furthermore, it does not
20 represent the network that an efficient company would engineer or
21 install. Section VI.A. and Appendix A, Section A of the attached
22 *Analysis* discuss this in detail.

23

24 **Q. ARE THESE RESULTS CONSISTENT WITH FINDINGS IN OTHER**
25 **STATES?**

1 A. Yes. We found similar results for GTE's territories in Minnesota,
2 Washington, and Texas. Further, U S WEST and Sprint report similar
3 results for their study areas.
4

5 **Q. AT&T AND MCI HAVE ATTEMPTED TO DISMISS THE MST**
6 **STUDY'S VALIDITY AT THE FCC AND ELSEWHERE. WOULD**
7 **YOU LIKE TO COMMENT?**

8 A. Yes. None of AT&T's and MCI's testimony filed with various state
9 commissions or AT&T's *Ex Parte* presentation to the FCC contain any
10 legitimate grounds for the dismissal of the MST study. Briefly, AT&T
11 and MCI claim that: (i) the model provides sufficient distribution plant
12 to reach customers in the lower density zones; (ii) the MST analysis
13 is based on a misunderstanding of the HAI customer location
14 approach; (iii) there are offsetting overestimations of distribution plant
15 in outlier clusters; (iv) the drop cable was not included in the analysis;
16 (v) the study does not account for the fact that there are surrogate
17 points; and (vi) an MST is not the minimum amount of cable that is
18 needed to connect customers.
19

20 **Q. DO YOU HAVE A RESPONSE TO AT&T/MCI'S ARGUMENTS?**

21 A. Yes. I will take them in order.
22 (i) While AT&T and MCI claim that HAI 5.0a models sufficient
23 distribution cable to reach all customers, they do not provide any
24 evidence. On the other hand, I have evidence that HAI 5.0a does not
25 provide sufficient distribution cable for the majority of clusters.

1 (ii) Again, AT&T states without any support or evidence that the
 2 criticism of HAI 5.0a is based on a misunderstanding of the
 3 algorithms. I think the issue is clear. The HAI Model provides less
 4 distribution cable in the majority of clusters than is physically
 5 necessary to reach all customers.

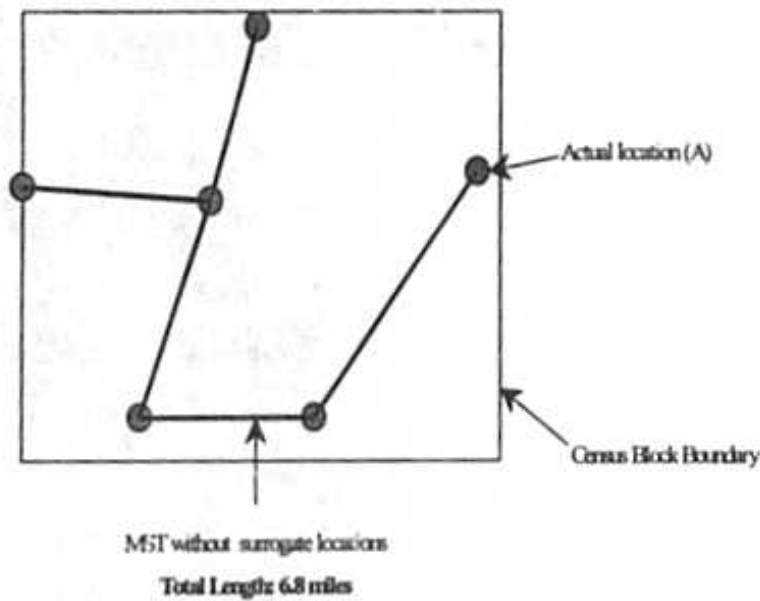
6 (iii) AT&T claims that there are "offsetting" overestimations in outlier
 7 clusters. Again, this argument has no merit, and AT&T does not
 8 provide any evidence in support of this statement. In addition, the
 9 vast majority of universal service support is in the lowest two density
 10 zones. Further, there is less than 0.5 percent of GTE Florida's total
 11 lines in outlier clusters. Thus, whether a certain area qualifies for USF
 12 support depends almost exclusively on the main clusters in the lowest
 13 two density zones. The fact that there might be a potential
 14 overestimation in an outlier cluster(s) in any density zone does not
 15 remedy the problem. Most important, it does not change the fact that
 16 the HAI Model does not contain enough distribution cable to
 17 physically connect all the customers in a serving area.

18 (iv) As noted above, this criticism does not apply to our MST study.
 19 Our study does include the drop cable length.

20 (v) AT&T insists that the MST analysis is flawed because no
 21 adjustment was made for the excess area that exists within the
 22 Model's clusters. AT&T and MCI both claim that because clusters are
 23 formed in part from surrogate points placed along the Census Block
 24 ("CB") boundaries, such a correction is necessary. This claim is
 25 incorrect for several reasons. First, the Model's sponsors have

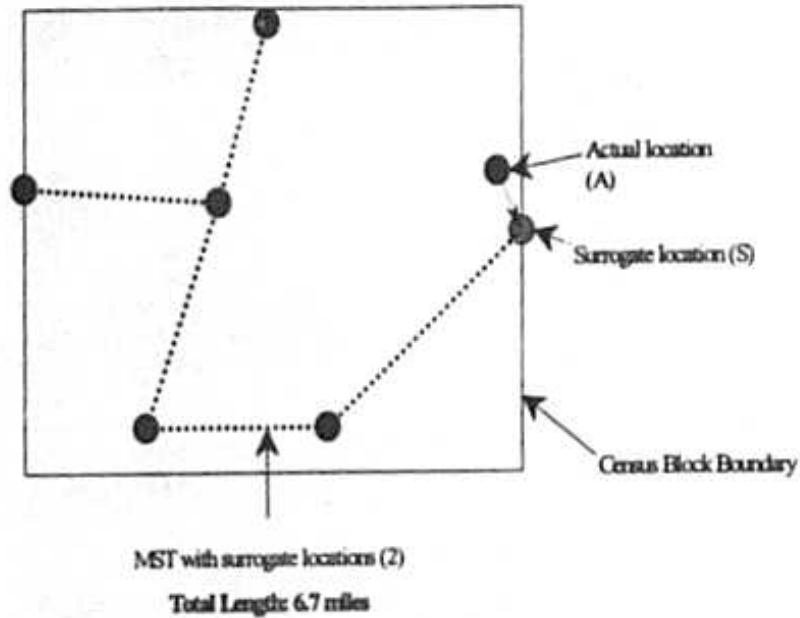
1 argued consistently that the data is highly accurate. If this is true,
 2 then a few surrogate points should not make a difference. Second,
 3 they are wrong in asserting that placing surrogate points on the
 4 boundary of a CB is conservative (*i.e.*, leads to higher costs). Placing
 5 surrogate locations on the border could either *increase* or *decrease*
 6 the length of an MST. This is illustrated in the following figures.
 7 Figure 1 depicts the actual locations of a hypothetical group of
 8 customers, with the MST for these locations. The length of the MST
 9 for the actual locations is 6.8 miles.

Figure 1



21 Now suppose that the rightmost location, labeled A in Figure 1, is not
 22 known, and a surrogate location, labeled S, in Figure 2 is used.
 23
 24
 25

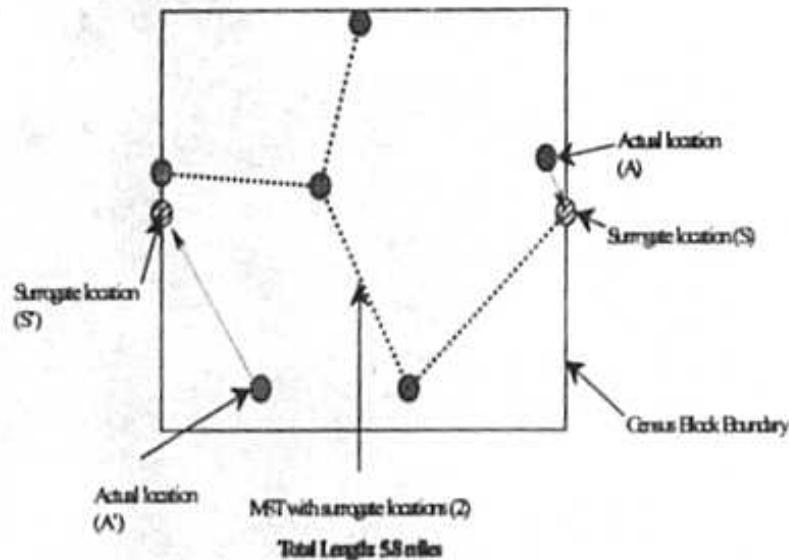
Figure 2



The MST with this surrogate location is 6.7 miles long – less than when the actual location is used. As Figure 2 illustrates, the MST with surrogate points placed on the border *can* be shorter than the MST with the actual locations, contrary to the sponsor's statement.

A related point also can be illustrated. Placing surrogate points on the border does not simply extend or shorten some lines within the MST. The procedure can change the entire shape of the MST. In Figure 3, in addition to the previous point, the bottom-left location (A') is not known and, therefore, is replaced by a surrogate location (S') on the border, as represented by the striped point. The MST with this surrogate location is completely different (and again shorter) than the MST with the actual locations.

Figure 3



Contrary to the sponsors' statement, nothing can be said about the effect on the distribution network length of placing surrogate points on the border.

(vi) AT&T is correct that the MST is not the minimum amount of cable that is needed to connect customers. In fact, the minimum distance of a distribution plant network is believed to be *much greater* than the MST. The MST should be used only as an absolute lower bound. The line segments of an MST run directly from one point to another. They do not account for geographical obstacles such as rivers, swamps, lakes, or freeways. Further, they do not account for right-of-way issues and building permits. The MST is calculated using airline miles (the straightest distance between points). Thus, the MST does not represent the actual amount of cable (route miles) that would be

1 required to connect the customers given geographical features.

2

3 **Q. WHOSE COSTS SHOULD A COST MODEL ESTIMATE – THE**
4 **INCUMBENT CARRIER OR A HYPOTHETICAL CARRIER?**

5 **A.** To answer that question, one needs to remember that in the end the
6 prices generated are intended to mimic the effects of competition.
7 The short answer to this question is that it must be the costs of the
8 *incumbent* LECs that are estimated, not those of a hypothetical firm,
9 which is what the HAI Model does.

10

11 There are two reasons for this, both of which come from
12 understanding how prices and costs interact in competitive markets.

13 The first role a price serves is to ration the use of existing facilities.

14 For instance, if one does not want the existing facilities to be
15 overused, the price must be set high enough. Similarly, if a facility is

16 not to be underutilized, the price must be set low enough. Consider

17 Internet access. If Internet access was suddenly free, there would be

18 an excess of callers and access facilities would be overloaded. The

19 Internet Service Provider ("ISP") would either have to increase the

20 number of access lines or raise prices. Increasing the number of lines

21 would require time and could only be done in the long-run. Moreover,

22 if the price is too low, the ISP will have no incentive to increase the

23 number of access lines because it will never recover its investment.

24 In the short-run, the provider would have to use the price of access as

25 a control to ration the use of its facilities. Otherwise, there would be

1 no Internet services available even if people were paying for it.
2 Therefore, when it comes to rationing current resources, the
3 incumbents' costs are the relevant ones.

4
5 The second role that prices serve is to signal the need for entry or
6 expansion of facilities as alluded to above. If the price that correctly
7 rations existing facilities is much above cost, then the solution is not
8 to lower that price by fiat or regulatory mandate but to expand the
9 facilities and allow competition to drive the price down. A price above
10 cost signals new facilities-based providers to enter the market. Again,
11 the relevant cost here is the *incumbent's* cost. For example, consider
12 that the incumbent's economic costs are 20 percent higher than the
13 costs of a potential entrant. Pricing at the incumbent's cost leaves a
14 gap that gives a new entrant the ability to enter the market, begin
15 production, and compete the price down.

16
17 If regulation attempts to anticipate the market by ordering that the
18 price must be set equal to the incremental cost of a new, super-
19 efficient entrant, there will be two unintended consequences. First,
20 the super-efficient carrier now has no incentive to enter since it would
21 only make, at most, a normal rate of return on investment. The
22 investors will look to enter another market where the return is higher
23 than normal. Second, the customers will not get the benefits this new,
24 super-efficient provider might offer. Although rate payers might have
25 lower rates, this will be an inefficient outcome because the price no

1 longer correctly rations the use of the existing system. Thus, the
2 relevant costs on which prices should be based are the forward-
3 looking costs of the *incumbent* firm. To its many failings, add that the
4 HAI Model does not even *attempt* to measure the costs relevant to the
5 question here: the actual costs of GTE Florida's network. Instead, it
6 generates generic "proxy" costs, based upon an entirely *hypothetical*
7 and futuristic telephone network that does not reflect the likely costs
8 or engineering characteristics of GTE Florida's forward-looking local
9 network. Thus, at best, one could say that the HAI Model attempts to
10 measure the cost of a *hypothetical* LEC.

11
12 **Q. ARE THERE ECONOMIC CONSEQUENCES ASSOCIATED WITH**
13 **MODELING THE COSTS OF A HYPOTHETICAL CARRIER**
14 **INSTEAD OF THE COSTS OF THE INCUMBENT CARRIER?**

15 A. An incumbent LEC, such as GTE Florida that is forced to price
16 products below their efficient economic costs, cannot possibly survive.
17 Ironically, the incumbent LEC would end up cross-subsidizing
18 alternative telecommunication providers, thus facilitating uneconomic
19 entry by its rivals.

20 **Q. DOES THE HAI MODEL CORRECTLY APPLY THE CONCEPT OF**
21 **THE LONG-RUN?**

22 A. No. The second fundamental flaw HAI 5.0a suffers from is an
23 incorrect understanding and application of the concept of the long-run.
24 Unlike the concept applied in the HAI Model, long-run does *not* refer
25 to a period of time. Long-run is an analytical concept that answers

1 the following question – What are the costs of a firm producing *today's*
2 output with *today's* technology at *today's* prices under the assumption
3 that the firm was freely able and instantaneously able to vary all of its
4 inputs so as to minimize cost? Sometimes, we economists refer to
5 this very loosely as a period of time, most often when teaching
6 principles of economics, because it is easier for students to think
7 about. Nonetheless, the HAI Model supporters would have you think
8 that extrapolating historical changes far into the future and using
9 those future extrapolations as the "forward-looking" cost is a correct
10 application of the long-run concept. This is simply not correct.
11 Historical changes in network operations expenses already contain
12 the effects of changes in input prices and changes in technology. By
13 extrapolating these historical changes into the future, the HAI
14 modelers fail to hold either the prices or the current technology
15 constant. This is not long-run. Further, it demonstrates a complete
16 misunderstanding of the concept by confusing a didactic device for
17 teaching economic principles with a professional economist's
18 analytical tool. For these and many other reasons as pointed out in
19 the attached *Analysis*, the HAI Model violates sound economic
20 principles and should not be considered a valid cost model.

21

22 **Q. MR. WELLS CLAIMS (AT PAGE 14 OF HIS DIRECT TESTIMONY)**
23 **THAT "A CONSIDERABLE AMOUNT OF VALIDATION OF THE**
24 **OSP PORTION OF THE HAI MODEL HAS TAKEN PLACE." ARE**
25 **YOU AWARE OF SUCH VALIDATIONS?**

1 A. No. While I strongly support the modelers' attempts to validate their
2 model, I have not seen any formal verification of any validation
3 attempts of the OSP portion of the Model. First, Mr. Wells (at 20)
4 claims that Mr. Fassett, an HAI engineering team member, collected
5 validation numbers on the Model's default values. As pointed out in
6 the attached *Analysis* and the testimony of Mr. Murphy, this analysis
7 was fundamentally flawed and contradicts the Model's numbers on
8 several occasions. Second, Mr. Wells lists his own efforts for the
9 design of 10 CBGs in Georgia as validation of the accuracy of the
10 model. This study was performed on a prior version of the Model and
11 is not applicable to HAI 5.0a. I have not seen a similar analysis for
12 this version of the HAI Model. Further, as I have pointed out in my
13 testimony in other states, this analysis (after the correction of a
14 mathematical error) did nothing more than confirm our findings that
15 the Hatfield Model (as it was called at the time) did not provide
16 sufficient outside plant.

17

18 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY**

19 A. Yes.

20

21

22

23

24

25

1 GTE FLORIDA INCORPORATED
2 DIRECT TESTIMONY OF FRANCIS J. MURPHY
3 DOCKET NO. 980696-TP
4

5 I. INTRODUCTION AND PURPOSE OF TESTIMONY
6

7 Q. MR. MURPHY, PLEASE STATE YOUR FULL NAME, EMPLOYER
8 AND BUSINESS ADDRESS.

9 A. My name is Francis J. Murphy. I am employed as the President of
10 Network Engineering Consultants, Inc. ("NECI") located at 5 Cabot
11 Place, Suite #3, Stoughton, MA, 02072, and 2033 North Main Street,
12 Suite 390B, Walnut Creek, CA, 94596.

13
14 Q. PLEASE STATE THE CAPACITY IN WHICH YOU ARE EMPLOYED
15 AND YOUR EDUCATIONAL AND EMPLOYMENT EXPERIENCE
16 AND QUALIFICATIONS.

17 A. I am a consultant specializing in financial analysis and service costing
18 as they relate to the telecommunications industry. Recently, I
19 submitted testimony and testified before the Alabama Public Service
20 Commission, the Nebraska Public Service Commission, the South
21 Carolina Public Service Commission and the Texas Public Utilities
22 Commission regarding the HAI Model, Release 5.0. I have testified
23 on behalf of GTE relative to the Hatfield Model, Version 3.1 in
24 proceedings before the Public Utilities Commission of the State of
25 Hawaii, the Washington Utilities and Transportation Commission and

1 the New Mexico State Corporation Commission. Also, I have testified
2 for GTE before the Oregon Public Utility Commission in response to
3 AT&T/MCI's Non-Recurring Cost Model. Before forming NECI, I
4 worked for Financial Strategies Group (FSG) on behalf of its client,
5 Pacific Bell. I was a deponent representing Pacific Bell in the
6 California Public Utilities Commission's (CPUC) OANAD proceeding,
7 relative to Pacific Bell's Avoided Cost studies in June 1996. I
8 submitted pre-filed, rebuttal testimony in the same proceeding in June
9 1996 and again in October 1997. In the same proceeding, on March
10 18, 1997, I filed a Declaration with the CPUC relative to an analysis of
11 the Hatfield Model, Version 2.2.2 that I had directed. I also filed a
12 Supplemental Declaration relative to the Hatfield Model, Version 2.2.2
13 with the CPUC on April 15, 1997.

14
15 I worked in the telecommunications industry, with NYNEX
16 Corporation, for over 25 years. In my last NYNEX position, I was a
17 Staff Director responsible for the costing of interstate services,
18 including both recurring and non-recurring cost studies for new and
19 existing services, and for calculating product specific exogenous costs
20 for use in FCC Price Cap Filings. Previous to that, I was responsible
21 for calculating and reporting interstate rate of return results to the
22 FCC. I was also a Network Manager with network operations and
23 budget responsibilities that included central office operations,
24 interoffice facility operations, customer premises installation and
25 maintenance operations, test center operations, and project

1 management. I have attended numerous technical, management,
2 and service cost related courses, including Bellcore sponsored
3 service cost development, and separations and settlement courses.
4 I received a Bachelors Degree in Business Management from Boston
5 College in 1986.
6

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

8 A. The purpose of my testimony is to offer an engineering critique of the
9 HAI Model, Version 5.0(a) ("HAI Model," "Model," or "HAI 5.0a"). This
10 critique was jointly developed by National Economic Research
11 Associates ("NERA") and NECI. My testimony consists of both the
12 report attached to Dr. Tardiff's testimony (Exhibit TJT-2), entitled "*An*
13 *Analysis of the HAI Model Release 5.0(a)*" ("*Analysis*"), which I am
14 jointly sponsoring with Dr. Tardiff, and the questions and answers
15 presented here. Exhibit TJT-1 to Dr. Tardiff's testimony is a modified
16 copy of the Table of Contents from the *Analysis*. The purpose of
17 Exhibit TJT-1 is to assist the Commission and counsel in directing
18 their questions regarding the *Analysis* to Dr. Tardiff or myself as
19 appropriate. In addition, I will specifically respond to the testimony
20 filed by Don J. Wood on behalf of AT&T Communications of the
21 Southern States, Inc. and MCI Telecommunications Corporation, and
22 the testimony of James W. Wells filed on behalf of MCI
23 Telecommunications Corporation.
24

25 **Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

1 A. Over the past several months, we have extensively analyzed and
2 evaluated various versions of the HAI Model in order to determine
3 whether the Model is appropriate to use in establishing universal
4 service obligations or in estimating costs or prices for unbundled
5 network elements. Based on our review of the HAI Model, including
6 our review of Version 5.0a, we have concluded that HAI 5.0a, like its
7 predecessors, is subject to a myriad of economic and engineering
8 flaws that are so severe as to render the Model unusable for its
9 intended purpose. Accordingly, we recommend that this Commission
10 *not* adopt HAI 5.0a as a means for determining the cost of providing
11 basic local telecommunications service for universal service support
12 purposes.

13
14 **Q. IN YOUR OPINION, IS THE NETWORK PRODUCED BY THE HAI**
15 **MODEL CAPABLE OF PROVIDING TELEPHONE SERVICE TO**
16 **ALL CUSTOMERS?**

17 A. Definitely not. The network modeled in HAI 5.0a is fraught with
18 shortcomings and unrealistic engineering assumptions. Drops do not
19 reach houses. The loop plant is insufficient to connect all subscribers
20 to the appropriate wire centers. The Model produces less than one
21 half of the trunks necessary for GTE to provide telephone service to
22 its customers in Florida. Customers in rural areas may not have
23 access to advanced services. The investment and expense
24 associated with switching is insufficient to ensure customers have
25 telephone service that is not subject to blockage. The network will not

1 function because power investment is severely understated. There
2 is no power investment in the Model for tandems, for the buildings in
3 which switches reside, for transmission equipment found in wire
4 centers or for the back-up power needed to ensure uninterrupted
5 telephone service. The HAI Model uses unrealistic sharing
6 assumptions and a structure mix that favors the placement of aerial
7 cable, despite the fact that forward-looking network architecture
8 favors the placement of buried and underground cable. The network
9 produced by HAI 5.0a cannot be tested because there is no
10 investment in the Model to provide such functions. The land and
11 building investment in the HAI Model is not sufficient to house the wire
12 centers in the Model. Telephone service cannot be provided to new
13 customers on the HAI network who require service in a short period
14 of time because the HAI Model does not contain sufficient spare
15 capacity to accommodate growth quickly. The network modeled by
16 HAI would require significant investment and expense outlays on a
17 going forward basis every time telephone service is needed to be
18 provided to another subscriber. Our *Analysis* discusses all these
19 issues, and more, in greater detail

20

21 **II. RESPONSE TO MR. WOOD'S TESTIMONY AND CRITIQUE OF**
22 **THE HAI MODEL**

23

24 **Q. DO YOU AGREE WITH MR. WOOD'S CONTENTION CONTAINED**
25 **ON PAGES 11-12 OF HIS DIRECT TESTIMONY THAT THE HAI**

1 **MODEL COMPLIES WITH THE FCC'S CRITERIA FOR STATE-**
2 **CONDUCTED ECONOMIC COST STUDIES?**

3 A. No, I do not. On the contrary, HAI 5.0a fails to satisfy nearly all of the
4 ten criteria articulated in the FCC's May 7, 1997 Universal Service
5 Order. Appendix B of Exhibit TJT-2 attached to the testimony of Dr.
6 Timothy Tardiff provides a detailed analysis of the HAI Model's failure
7 to comply with the criteria set forth by the FCC.

8
9 **Q. MR. WOOD STATED ON PAGE 13 OF HIS DIRECT TESTIMONY**
10 **THAT THE HAI MODEL "IS CAPABLE OF PROVIDING ACCESS**
11 **TO ADVANCED SERVICES." DO YOU AGREE WITH MR. WOOD'S**
12 **ASSESSMENT OF THE MODEL'S CAPABILITIES IN THIS AREA?**

13 A. No. The HAI Model does not properly design a network that will
14 accommodate advanced services, because the network utilizes
15 copper loops as long as 18,000 feet. Recent RBOC press releases
16 announcing ADSL deployment plans indicate that only homes within
17 one to two miles of the telephone company's central offices will enjoy
18 maximum performance. With copper cable lengths as long as 3.5
19 miles, the network designed in HAI 5.0a will impede the provision of
20 such services to many rural customers in Florida and consequently
21 violates the FCC's "advanced services" criteria.

22

23 In addition, in both HM 4.0 and HAI 5.0a, the HAI modelers replaced
24 coarse gauge, loaded loop technology to provide service beyond
25 18,000 feet with copper-fed conventional T1 -digital carrier. As

1 discussed in the *Analysis* attached to Dr. Tardiff's testimony,
2 conventional copper-based T1 digital carrier is a 1970's technology
3 that requires special design and cable conditioning to function
4 properly, especially when used in the small copper cables used by
5 HAI 5.0a. Copper T1 carrier is not a forward-looking technology, and
6 should not be used in a model purporting to estimate forward-looking
7 costs. Indeed, Mr. Wood has previously recognized that, "forward-
8 looking DLC architectures assume the use of fiber optic transmission
9 facilities." (Supplemental Direct Testimony of Don J. Wood on Behalf
10 of AT&T Communications of the Southern States, Inc. and MCI
11 Telecommunications, Inc., Before the North Carolina Public Utilities
12 Commission, Docket No. P100, SUB 133d, February 16, 1998,
13 Footnote 1). HAI 5.0a's use of T1 over copper violates this forward-
14 looking DLC architecture.

15
16 **Q. IS THE HAI MODEL CAPABLE OF ACCOMMODATING GROWTH**
17 **IN ADVANCED SERVICES IN A COST-EFFECTIVE MANNER?**

18 **A.** No, it is not. Copper T1 carrier is not the preferred technology to best
19 accommodate the expected growth in demand for advanced services.
20 A forward looking model should account for the demand for advanced
21 services that will rise greatly in the near future. HAI 5.0a designs a
22 network with serving areas served by copper T1 carrier, rather than
23 fiber optic cable. When the demand for advance services in a serving
24 area exceeds the capacity of its copper T1 carrier, the only way to
25 accommodate any increase in demand will be to lay more copper T1

1 wire. Such a practice would be a time consuming and expensive
2 undertaking. If the serving area had properly been designed with
3 fiber optic cable, any rise in demand for advanced services could be
4 accommodated simply by changing the electronic equipment on either
5 end of the cable -- a more cost effective and forward-looking
6 approach.

7

8 **Q. SECTION 2.4 OF THE HAI MODEL DESCRIPTION ATTACHED AS**
9 **EXHIBIT DJW-2 TO DON WOOD'S DIRECT TESTIMONY STATES**
10 **THAT, "HAI 5.0a LAYS ITS DISTRIBUTION PLANT DIRECTLY**
11 **OVER THE ACTUAL IDENTIFIED LOCATIONS OF CUSTOMERS."**
12 **DO YOU CONCUR THAT THIS IS HOW THE HAI MODEL**
13 **FUNCTIONS?**

14 **A.** No. The actual customer locations are not passed to the HAI Model
15 with the cluster database created in preprocessing. Therefore it is
16 impossible for the Model to place plant directly over actual customer
17 locations. To make matters worse, the Model's distribution module
18 does not follow standard distribution area design practices in the
19 determination of cable layout or size.

20

21 **Q. DO THE CLUSTER SIZE ENGINEERING CRITERIA LIMITATIONS**
22 **INTRODUCED IN HAI 5.0a MEET PREVIOUSLY DEFINED FCC**
23 **CRITERIA FOR FORWARD-LOOKING COST STUDIES?**

24 **A.** No. The FCC, in its Universal Service Order, has prescribed certain
25 criteria for universal service cost studies. Specifically, the FCC has

1 stated that, "the cost study or model must include the capability to
2 examine and modify critical assumptions and engineering principles."
3 Cluster design is critical to properly engineering the loop distribution
4 network. HAI 5.0a's cluster design process is performed outside the
5 Model and is not available for examination or modification by the user.

6

7 **Q. SECTION 5.5.1 OF THE HAI MODEL DOCUMENTATION**
8 **ATTACHED TO MR. WOOD'S DIRECT TESTIMONY AS EXHIBIT**
9 **DJW-2 STATES THAT THE CLUSTER DESIGN CRITERIA USED**
10 **BY THE HAI MODEL CONSTRAINS THE RIGHT ANGLE**
11 **DISTANCE FROM THE CLUSTER CENTROID LINE SIZE TO 1,800**
12 **LINES. DOES THE HAI MODEL FILED IN FLORIDA ADHERE TO**
13 **THESE CLUSTER DESIGN PARAMETERS?**

14 **A.** No, the Model in fact violates the engineering standards listed in the
15 Model Description. When the HAI Model is run for GTE in the state
16 of Florida, the results produce 254 clusters that have greater than
17 1800 lines and 55 clusters that violate the 18,000 foot distance
18 limitation.

19

20 **Q. WHAT EFFECT DO THESE FLAWS HAVE ON THE NETWORK**
21 **PRODUCED BY THE HAI MODEL?**

22 **A.** The results produced violate the engineering standards that are the
23 foundation of the HAI Model -- standards that according to Mr. Wells
24 are "necessary and realistic limitations on CSA design to ensure the
25 quality service Florida customers expect and the FCC Order requires".

1 (Direct Testimony of James W. Wells, Jr. on Behalf of MCI
2 Telecommunications Corporation filed August 3, 1998, at 7). In fact,
3 the service that would be provided to Florida customers over a
4 network based on the HAI Model are even further degraded due to
5 the HAI modelers' use of arbitrary Carrier Serving Area (CSA) size
6 limitations that violate the industry standard CSA parameters. (See
7 *Analysis* Appendix A, Section A.2).

8

9 **Q. AREN'T THESE PROBLEMS RECTIFIED IF THE HAI "LOCAL RT-**
10 **MAXIMUM DISTANCE" INPUT IS CHANGED FROM 18,000 TO**
11 **12,000 FEET?**

12 **A.** No, they are not. The engineering parameters are hard-coded in the
13 PNR Clustering software that is part of the proprietary preprocessing
14 stage used to develop input data for the HAI Model. As such, they
15 are not available to the user for modification. While the user
16 adjustable input for the Local RT - Maximum Distance can be
17 changed within the HAI Model itself, the results produced are suspect.
18 The serving area size that was defined in the PNR Clustering Process
19 remains unchanged. It is optimized for maximum copper lengths of
20 18,000 feet, no matter what input value is chosen by the user. The
21 results are further suspect because of the HAI's continual problem of
22 failing to place the minimum amount of cable necessary to connect all
23 customers in a cluster. As described in the *Analysis* attached to Dr.
24 Tardiff's testimony, a study of HAI produced cable lengths in
25 Minnesota, Texas, and Washington show that the Model fails to place

1 the proper amount of cable, especially in rural areas. Once AT&T
2 produces the data that will allow us to conduct a study in this
3 proceeding, we fully expect to find similar results in Florida.

4

5 **III. RESPONSE TO DIRECT TESTIMONY OF JAMES W. WELLS**

6

7 **Q. ON PAGE 4 OF HIS DIRECT TESTIMONY, MR. WELLS HERALDS**
8 **HIS EXPERIENCE AND CREDENTIALS, AND THOSE OF THE**
9 **OTHER HAI ENGINEERING TEAM MEMBERS, AS PROOF THAT**
10 **THEY HAVE CORRECTLY DETERMINED INPUT VALUES FOR**
11 **OUTSIDE PLANT COSTS. DOES THAT EXPERIENCE GIVE YOU**
12 **ANY CONFIDENCE IN THE INPUT VALUES FOUND IN THE HAI**
13 **MODEL?**

14 **A.** No, quite the opposite. Essentially, Mr. Wells is telling the
15 Commission to "just trust us," which, quite ironically, is a criticism that
16 the HAI proponents have levied against the ILECs in a number of cost
17 proceedings. The platform design of the HAI Model and the
18 overwhelming majority of its input values are based upon the "expert
19 opinions" of its developers, including the engineering team of which
20 Mr. Wells is a member. In HAI 5.0a, a very high percentage of the
21 user-adjustable inputs are based upon the opinion of the engineering
22 team and Model developers rather than on empirical data (which in
23 many cases was collected by the engineering team). This is
24 remarkable given the fact that there exists a wealth of empirical data
25 from which the platform and inputs could have been developed.

1 Model developers chose to ignore empirical data and instead rely on
2 opinion based input values that would ensure the HAI Model
3 produced desired results.

4
5 Input values used in a cost model should reflect "an examination of
6 the current cost of purchasing facilities and equipment practices."
7 (FCC Universal Service Report and Order, May 7, 1997, Paragraph
8 250(3)). The HAI "expert opinions" are not supported by empirical
9 data -- and are often contradicted by it. Regardless of the "collective
10 experience" of the engineering team, the fact remains that the
11 empirical data the engineering team gathered repeatedly impeaches
12 the team's "expert opinion."

13

14 Q. COULD YOU PROVIDE SOME EXAMPLES OF "EXPERT
15 OPINIONS" THAT ARE IMPEACHED BY THE EMPIRICAL
16 SOURCE DATA?

17 A. There are numerous examples to which I could cite. I have listed a
18 few examples below:

19

20 Trunk Ports - The \$100 trunk port value is a perfect example of this
21 reliance upon "expert opinion" instead of empirical data. The source
22 for the trunk port investment of \$100.00 per end found in the HAI
23 Model is first listed as, "AT&T Capacity Cost Study." (See HAI Inputs
24 Portfolio 5.0a, Section 4.5.4, attached to Mr. Wood's Direct testimony
25 as DJW-3 (hereinafter "HIP")). The value for a trunk port in this

1 source document listed by the HAI developers is in fact \$275.00 per
2 end. (*A Study of AT&T's Competitors' Capacity to Absorb Rapid*
3 *Demand Growth*, June 20, 1990, Page 7). Rather than offer any
4 explanation of why the value used in the Model is \$175.00 lower than
5 its listed source, the developers resort to their "judgment." (HIP,
6 Section 4.1.4). In addition, the NBI study used by Model developers
7 to calculate switching costs, contains a trunk port cost of \$305. ("US
8 Central Office Equipment Market Database," Northern Business
9 Information, 1996 Database, Exhibit 3-37, Page 89). This empirical
10 data is also ignored by Model developers in favor of a lower input
11 value based upon "expert opinion."

12
13 Drop Lengths - Mr. Wells' engineering team received several quotes
14 concerning drop length, the shortest of which was 75 feet. The HAI
15 Model, however, assumes a drop distance of 50 feet in high density
16 zones. The inputs portfolio for HAI 5.0a indicates that its assumptions
17 about drop length are based upon the most recent Bellcore
18 nationwide study of actual loop lengths, which shows that the average
19 drop length is 73 feet. However, the average calculated drop length
20 in the HAI Model for the companies included in the Bellcore survey
21 is only 63 feet. When Joseph Riolo, one of the engineering team
22 members, was recently asked in Hawaii why the HAI Model has an
23 average drop length of 63 feet, when the Bellcore study showed an
24 average of 73 feet, his only justification for the lower figure was that
25 the HAI engineering team had "well over 200 years of experience."

1 (Testimony of James Riolo on Behalf of AT&T, before the Public
2 Utilities Commission of the State of Hawaii, Docket No. 7702,
3 October 15, 1997, Tr. at 1584-86). Not surprisingly, Mr. Riolo was
4 unable to quantify how many years of experience the RBOCs had. In
5 any event, the point is simple: empirical data drawn from the industry
6 should not be rejected in favor of the biased speculation of several
7 retired engineers. Once again, the engineering team's own empirical
8 data -- both the survey responses and the Bellcore study -- impeach
9 its expert opinion.

10
11 Digital Loop Carriers - The \$5.00 per line DLC offset for Integrated
12 Digital Loop Carrier (IDLC), discussed in the Analysis attached to Dr.
13 Tardiff's testimony, is another example. When this offset was first
14 introduced in the HAI Model, its value was \$35. With different
15 versions of the Model, this value was decreased downward to \$5.00.
16 Since its inception, Model developers have not been able to offer any
17 substantiation for the figure itself (or its significant reduction) other
18 than the fact that it is an "HAI estimate." (HIP, Section 4.1.7).

19
20 Network Operations Factor - The attempt on the part of the HAI
21 developers to find validation for the Network Operations Factor found
22 in the Model is another example of developers' use of "expert opinion"
23 when all else fails. With the evolution of each version of the Model,
24 developers offered a different explanation for the validation and
25 source of the 50% reduction in the Network Operations Factor. (See

1 the *Analysis* attached to Dr. Tardiff's testimony for a more detailed
2 explanation). When the developers ran out of potential empirical
3 explanations, they opted again to rely solely on "expert opinion."
4

5 Surface Texture Multipliers - The input values for "surface texture
6 multipliers" used by Model developers are also not supported by the
7 empirical data gathered by the "engineering team." The data
8 gathered by the team indicates that the cost of plowing in difficult
9 terrain was on average 60% higher than plowing in desirable soil.
10 These higher costs, found in the contractor's bids solicited by the
11 engineering team, were not reflected in the input values (they
12 assumed only a 20%-30% increase in costs). Rather, HAI modelers
13 cited their source for the inputs as "Discussions with excavation
14 contractors who routinely perform work on a variety of soil conditions."
15 (HIP, Section 6.5).

16
17 Power Investment - Like many inputs in the Model, the source for
18 power related investment values is the ubiquitous "HAI Associates
19 Estimate." (HIP, Section 4.2.3). HAI developers persist in basing
20 their power investment estimates upon "expert opinion" rather than
21 empirical data, despite the fact that the primary sponsor of the Model,
22 AT&T, has its own model which includes power investment estimates
23 significantly in excess of that used in the HAI Model. (AT&T/MCI
24 Collocation Model, Version 1.2, Before the Public Utilities Commission
25 of State of California, Docket Nos. R. 93-04-003, I.93-04-002,

1 September 15, 1997). The inaccuracy of HAI Model 5.0a power
2 investment calculations is discussed in detail in the *Analysis*.

3

4 **Q. MR. WELLS STATES ON PAGE 14 OF HIS DIRECT TESTIMONY**
5 **THAT "INPUT VALUES HAVE BEEN VALIDATED BY**
6 **CONTACTING A VARIETY OF MATERIAL VENDORS AND**
7 **CONTRACTORS OF OSP SERVICES." DO YOU AGREE WITH**
8 **MR. WELLS' STATEMENT REGARDING THE INPUT VALIDATION**
9 **PROCESS?**

10 **A.** No, I do not. As shown above, the engineering team collected some
11 empirical data relating to their "expert opinion" based input values, but
12 in many cases ignored that data because it was unfavorable to their
13 sponsors. This is extremely problematic because it ensured that
14 Model developers were able to use input values that would produce
15 lower costs than would have been produced if actual empirical data
16 (in many cases their own empirical data) was used. If the engineering
17 team had truly been interested in validating their input values with
18 empirical data, many of the inputs would have been increased.

19

20 **Q. WHAT DO YOU THINK WOULD HAVE BEEN THE PROPER WAY**
21 **TO DETERMINE DEFAULT INPUT VALUES?**

22 **A.** As a threshold matter, default values should not be used as the basis
23 for calculating the cost of basic local telephone service. The input
24 values chosen for any cost model should reflect the actual costs
25 incurred by a company for the study area in question. With that

1 clarification, the proper method to develop default input values would
2 be to objectively gather actual, reliable data on outside plant costs
3 before setting any values, such as the "Best of Breed" approach that
4 was used to determine the input values in BCPM. Dr. Robert Mercer,
5 one of the primary developers of the HAI Model, concurs with this
6 approach. During recent hearings in Pennsylvania, Dr. Mercer
7 testified that it would be methodologically correct to use average ILEC
8 costs in setting default values. (Testimony of Dr. Robert A. Mercer on
9 Behalf of AT&T, Before the Public Utility Commission of the
10 Commonwealth of Pennsylvania, Docket No. I-0094035, October 23,
11 1997, Tr. at 3382-84). Dr. Mercer went on to testify that average
12 costs based upon actual telephone company expenditures would be
13 acceptable because they "already represent the kind of lower bids
14 that a telephone company would expect if it thought a contractor was
15 qualified." (*Id.* at 3384). Dr. Mercer correctly surmised that the ILECs
16 engage in competitive bidding practices, and, as such, low industry
17 prices. I agree with Dr. Mercer that input values based upon actual
18 ILEC data provide meaningful estimates of forward-looking costs.

19
20 **Q. MR. WELLS CITES THE WIDE RANGE IN POLE PRICES AS**
21 **SUPPORT FOR THE ASSERTION THAT THEIR "DEFAULT"**
22 **VALUES CAN BE USED TO ACCURATELY CALCULATE**
23 **FORWARD-LOOKING COSTS? DO YOU AGREE WITH THIS**
24 **RATIONALE?**

25 **A. To the contrary, the wide range in pole prices contained in the FCC**

1 study supports the contention of GTE and many others that it is not
2 possible to calculate meaningful forward-looking costs using default
3 values. The team's findings unequivocally support the fact that the
4 cost mechanism adopted by this Commission must include company
5 and state specific input values, and not some "default" value based
6 on the biased opinion of Model developers.

7

8 **Q. HAVE THE MODEL SPONSORS ENCOURAGED THE USE OF**
9 **STATE, COMPANY OR SPECIFIC INPUTS?**

10 A. No, they have encouraged just the opposite. The HAI Model's
11 sponsors have taken the position before the FCC that the user
12 adjustable default values must be used unless the user (including a
13 State Commission) has "substantial evidence to support" that another
14 value is more correct. (See Comments of AT&T Corporation Before
15 the Federal Communications Commission, CC Docket No. 96-45,
16 June 25, 1998, Pages 6,8, and 10). These same sponsors admitted
17 before the FCC that, "[i]n fact, the HAI Model default values were not
18 based on any price quotes, they were based on the judgment of a
19 panel of outside plant experts with almost two hundred years of
20 collective experience in the field." (Reply Comments of AT&T
21 Corporation Regarding "Designated Input and Revenue Benchmark
22 Issues," Before the Federal Communications Commission, CC Docket
23 No. 96-45, June 12, 1998, Page 20).

24

25 **Q. DO THE DIFFERENCES IN PRICES AROUND THE COUNTRY,**

1 **INCLUDING POLE PRICES, ESTABLISH INEFFICIENCY AND**
2 **POOR PRODUCTIVITY ON THE PART OF HIGHER PRICED**
3 **COMPANIES, AS MR. WELLS MAINTAINS?**

4 A. Mr. Wells simply has not provided any proof for his assertion that the
5 ILECs are inherently inefficient. In fact, market realities contradict Mr.
6 Wells' premise, and I am more inclined to agree with Dr. Mercer that
7 the ILECs are paying low prices for equipment and service.

8
9 **Q. DO YOU AGREE WITH MR. WELLS' ASSERTION THAT THE POLE**
10 **VALUES FOUND IN THE HAI MODEL ARE IN FACT REALISTIC?**

11 A. No. As discussed in the "*Analysis*," the HAI developers violated
12 standard bidding practices in calculating the pole costs used in the
13 Model. The developers chose a material quote from one vendor and
14 a labor cost from a different and totally unrelated vendor to arrive at
15 a total pole cost. Needless to say, a real-world company would never
16 adhere to such nonsensical bidding practices. The continual attempts
17 to find the lowest possible input values becomes particularly evident
18 when reviewing the history of pole costs from version to version of the
19 HAI Model. In Version 2.2.2. of the Model, the cost for a *thirty-five*
20 *foot pole without anchors and down guys* was \$450.00. In HAI 5.0a,
21 the cost for a *forty foot pole* is \$417.00 *including anchors and down*
22 *guys*. It is puzzling how the cost of a pole that is larger and includes
23 anchors and down guys can be less than a shorter pole without
24 anchors and down guys. HAI developers attempt to justify this
25 puzzling change by relying solely on "expert opinion."

1 Q PAGE 15 OF MR. WELLS' TESTIMONY INDICATES THAT GTE
2 SUBMITTED TO THE FCC A POLE COST ESTIMATE OF \$134. IS
3 IT APPROPRIATE TO COMPARE THE COST IN THE HAI MODEL
4 WITH THIS POLE COST FILED BY GTE?

5 A. No, it is completely inappropriate. The \$134.00 listed by GTE on the
6 report made to the FCC includes the cost of the pole material only,
7 and does not include costs of other materials, such as guy wires and
8 anchors, or supply expenses, right-of-way costs, engineering,
9 inventory costs, sales tax, and freight. This is discussed in greater
10 detail in the Rebuttal testimony of GTE witness David Tucek.

11

12 Q. MR. WELLS SPONSORS A CHART ON PAGE 21 OF HIS
13 TESTIMONY PURPORTING TO SHOW OUTSIDE PLANT DEFAULT
14 INPUT VALUES AS COMPARED TO THE EMPIRICAL DATA, AS
15 WELL AS EXHIBIT JWW-3 FROM WHICH IT WAS PREPARED.
16 DO YOU HAVE ANY COMMENTS ON THOSE ITEMS?

17 A. As discussed in the *Analysis*, I believe the chart is a fiction for several
18 reasons. First, we have been unable to find documentation for much
19 of the data in JWW-3. It is impossible to verify that all of the price
20 quotes in that exhibit are accurate. This is especially important
21 because many of the quotes that cannot be verified are those that are
22 lower than the default values. Second, many of the quotes reflected
23 in JWW-3 were not obtained until after the default values for those
24 items had already been determined. We have also been unable to
25 verify that the default values listed in the chart on page 21 are correct.

1 For instance, the chart lists "default" values for aerial strand mounted
2 block terminal (item #7), buried pedestal block terminal (item #8), and
3 trenching (items ##21-26). The HAI Model does not contain input
4 values for those items. Finally, it appears that the chart omits certain
5 data. (When the missing data is included, we find that seven, not two,
6 of the default input values reflect the lowest cost received.) For
7 instance, the engineering team obtained data on the cost of aerial
8 drop placement and the length of drop lines. None of that data is
9 reflected in Exhibit JWW-3, and those two categories do not appear
10 on Mr. Wells' chart.

11
12 The intended purpose of this exhibit -- to show that the HAI Model's
13 default values are purportedly 81% higher than the lowest estimates --
14 is disingenuous in the extreme. Even if all the data sources could be
15 verified, which they cannot, the magnitude of the 81% figure is driven
16 significantly by a handful of values, e.g., "trenching in pavement with
17 restoral," in which the low estimates are either wrong or demonstrate
18 a clear misunderstanding by the survey respondent. If these incorrect
19 and improbable values were discarded, as they should have been by
20 any careful modeler -- or by anyone who desired to present a truly
21 unbiased exhibit -- Mr. Wells' exhibit would reflect what the HAI
22 advocates have admitted for months: that the HAI default values are
23 at or near the lowest cost estimates. Until recently, engineering team
24 members took the strident view that it was reasonable -- and in fact
25 required by a proper TELRIC analysis -- to use the lowest possible

1 data points. (See Testimony of Dean R. Fassett, on Behalf of AT&T,
2 Before the Washington Utilities and Transportation Commission,
3 Docket Nos. UT-960369-71, July 8, 1997, Tr. at 428, 444-45). Mr.
4 Wells' exhibit notwithstanding, this is exactly what the default values
5 are based upon.

6

7 **Q. MR. WELLS STATES ON PAGE 5 OF HIS TESTIMONY THAT THE**
8 **MODEL CONFORMS TO, "SOUND LOCAL LOOP TRANSMISSION**
9 **AND DESIGN PRACTICES." DO YOU CONCUR WITH MR. WELLS**
10 **ON THIS POINT?**

11 **A.** No, I do not. The HAI Model discards accepted practices and
12 standards in favor of "expert opinion" based engineering practices. It
13 ignores standards such as the Carrier Serving Area (CSA) and
14 Detailed Distribution and Planning (DDAP) Guidelines.

15

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

17 **A.** Yes it does.

18

19

20

21

22

23

24

25

1 CHAIRMAN JOHNSON: Now, the exhibits we need to
2 identify those?

3 MR. WILLIAMS: Yes. Exhibit Number 1 is simply
4 the table of contents that Mr. Murphy indicated is modified
5 to provide an understanding of which witness was most
6 qualified to testify to which issue. Exhibit 2 is the big
7 one, 347 pages, and it is entitled an analysis of the HAI
8 Model Release 5.0a.

9 CHAIRMAN JOHNSON: We will identify the table of
10 contents as 69, and the analysis of HAI-50a as 70.

11 MR. WILLIAMS: Thank you. I also move the
12 admission of Mr. Murphy's testimony, if that is necessary.
13 And with that I would tender the witnesses for cross
14 examination.

15 CHAIRMAN JOHNSON: The testimony will be
16 inserted. Starting with you, Mr. Melson.

17 CROSS EXAMINATION

18 BY MR. MELSON:

19 Q Good evening, gentlemen. I'm Rick Melson
20 representing MCI.

21 Doctor Tardiff, do I understand that in your
22 professional opinion proxy cost models are not the
23 appropriate way to determine costs for purposes of universal
24 service funding?

25 A (Witness Tardiff) Could you cite something in my

1 testimony?

2 Q Well, is that your professional opinion that
3 proxy cost models are not the appropriate way to determine
4 costs for universal service funding?

5 A I don't believe that is my professional opinion.
6 My professional opinion is that you need a model that
7 reasonably replicates the costs that the provider of
8 universal service expect to incur. And if the proxy comes
9 reasonably close to that standard, then it provides a
10 reasonable basis for determining universal service support
11 levels.

12 Q Could you turn, please, to Page 7 of your
13 testimony at Lines 5 through 7, and tell me what that
14 statement means if it does not mean that proxy cost models
15 are inappropriate?

16 A Which page is this?

17 Q Page 7.

18 A Lines 5 through 7?

19 Q Yes, sir. "However, I believe that company
20 specific models rather than proxy cost models are the
21 appropriate standards to use for costing USF and UNEs."

22 A I'm sorry, could you direct me there again.

23 Q I'm sorry. Page 7 of your testimony, not the
24 attachment. Lines 5 through 7.

25 A Yes. What I meant there is that as I prefaced my

1 earlier answer that what we were trying to do is to
2 replicate the costs that this company will actually provide
3 and actually experience in providing service. And what that
4 sentence says is that a company specific model will do a
5 better job than a proxy model. But to the extent that's not
6 available and a proxy model forms a reasonable basis, a
7 practical tool is better than no tool at all in that
8 situation.

9 Q And of the two proxy models that have been
10 present in this proceeding, the HAI and BCPM, do I
11 understand that you prefer the BCPM because its results are
12 closer to GTE's actual numbers than the results of the
13 Hatfield model?

14 A That is one reason. Other reasons have to do
15 with specific design issues, but this is the issue of
16 external validity and clearly the BCPM does a better job on
17 the external validity tests that I'm proposing on this same
18 page than does the Hatfield model.

19 Q And when you say that BCPM better predicts or is
20 closer to GTE's historic costs than Hatfield, do you mean
21 historic costs as reported on ARMIS, is that correct?

22 A Yes. This is a comparison to common cost
23 categories, ARMIS versus model output.

24 Q That tells you nothing about which is a better
25 predictor of forward-looking costs for building an efficient

1 network using a scorched node approach, is that correct?

2 A No, I disagree, I think it tells you a lot. The
3 basic premise that GTE and other companies are providing
4 service today, they have certain incentives to be efficient,
5 and, you know, like we have done in a lot of pricing
6 decisions, that forms a much better starting point than some
7 speculation that you can be twice as efficient. So I
8 disagree with the question. I think it's a very good basis
9 for comparing models.

10 Q And if you had your choice and did not use a
11 proxy cost model, what type of model would you use for
12 determining costs for USF purposes, if you weren't
13 constrained by the statute?

14 A Well, you know, it depends on the details of the
15 program. I mean, if one is just to determine the shortfall
16 in today's prices against costs, and there was a need to do
17 it on a forward-looking basis, as I said earlier, a company
18 specific cost model would be the best estimate of the size
19 of the fund. You get a complication as the program gets
20 more geographic specific, more geographic specific where you
21 want to target the particular areas, and there you might
22 have to come up with some kind of hybrid approach where you
23 size the fund based on a prediction from a model I
24 described, but distribute the funds maybe based on a proxy
25 model that tells you the relative costs in different areas.

1 Q Let me change subjects just a minute. Is it your
2 testimony that the HAI model provides less distribution
3 cable in the majority of clusters than is physically
4 necessary to reach all customers?

5 A I think you're referring to something later on in
6 the testimony. Basically --

7 Q Doctor Tardiff, could you give me a yes or no and
8 then explain. Is that your testimony?

9 A That's what the testimony says, and I would like
10 to explain. That has been our finding when we have done
11 these studies in a number of different states. As we report
12 in this testimony here, the situation in Florida is that it
13 provides less cable than necessary in the majority of the
14 clusters in the lowest density area. And it's approximately
15 a majority in the lowest two density areas. If you define
16 all clusters then we report earlier that the shortfall is
17 not the majority in the State of Florida, it has been in
18 other states.

19 Q In fact, you report earlier that the shortfall is
20 11 percent of the clusters?

21 A Based on the study I described here, that's
22 correct.

23 Q All right. So --

24 A Overall. But, again, in the areas where it
25 matters the most it is a majority in the lowest one and it

1 approaches the majority in the summit of the two lowest
2 clusters.

3 Q Yes, sir. I was just trying to find out whether
4 you thought 11 percent was a majority or not?

5 A No, it's not a majority.

6 Q Mr. Murphy, at Page 7 of your testimony you
7 indicate around Line 20 that a forward-looking model should
8 account for the demand for advanced services that will rise
9 greatly in the near future. Do you see that?

10 A (Witness Murphy) Yes, I do.

11 Q Is it your understanding that the purpose of this
12 proceeding is to determine the cost of basic local service?

13 A That is my understanding of the proceeding, but
14 it's also my understanding that the FCC's requirements are
15 that the network that is envisioned to be deployed for those
16 purposes not be designed in a manner that will impede the
17 implementation of advanced services.

18 Q When you say it should account for the demand for
19 advanced services, what do you mean by advanced services?

20 A I am talking about services like ADSL/ISDN.

21 Q And is the network that is designed by the BCPM
22 model designed to be capable of providing ADSL/ISDN
23 services?

24 A Generally, yes.

25 Q To the extent that that model constructs a

1 network that is more costly than what is required to provide
2 simply basic local service, is the effect, would the effect
3 of using the results of that model to determine a universal
4 service fund be to oversize the fund?

5 A No, I don't believe so.

6 Q So that if basic local service -- and let me just
7 use some hypothetical numbers. If the cost of a BCPM
8 constructed network capable of providing advanced services
9 was \$35 per line and the cost of constructing a network that
10 would provide basic local services were \$30 a line, if you
11 were to use the \$35 a line amount as the basis for
12 determining the amount of universal service funding, it's
13 your testimony that would not overstate the amount required
14 to provide basic local service?

15 A Well, I think that it's important to remain
16 within the guidelines that the FCC has set, and that is that
17 the network that is modeled in order to provide universal
18 services should not impede the deployment of advanced
19 services. And that means to me that we should be sticking
20 with the generally accepted engineering practices and living
21 by the letter of what the FCC's guideline has stated with
22 that regard. If that happens to have a slightly, a slight
23 increase in cost, near term cost, I might add, then so be
24 it.

25 Q Do you see a difference between design in a

1 network that today is capable of providing advanced services
2 to every customer versus a network that does not impede the
3 provision of those services in the future?

4 A Are you asking me whether or not the networks
5 that are in place today would impede advanced services?

6 Q No, sir. You have said that the network design
7 by a model in order to meet FCC criteria should not impede
8 the provision of advanced services. I believe you told me a
9 moment ago that the BCPM constructed network, in fact, is
10 capable of providing advanced services to essentially all
11 users, and I'm asking you is there a difference between a
12 network that presently is capable of providing advanced
13 services and a network design that may not be capable of
14 providing, but does not impede. Is that a difference or is
15 it not a difference?

16 A I'm not sure I fully understand your question,
17 but let me try to see if I understand where you are coming
18 from. I think you may have interpreted an earlier statement
19 that I made that the BCPM is capable of providing advanced
20 services. Did I mean by that that the network had in place
21 today all of the components necessary to provide advanced
22 services, and if that's what I implied in my answer, then
23 that was not what was intended. Because, yes, you would
24 have to add additional investment to the BCPM network in
25 order to actually provide those advanced services. The

1 question in my mind is whether or not you have readied the
2 investments that you have deployed such that the network
3 will be compatible with the addition of additional equipment
4 such as ADSL modems. And the BCPM model does not have the
5 additional equipment that would be required, but it has
6 positioned the network such that it could accept and be
7 compatible with that additional equipment.

8 Q It also provides, in that case, distribution that
9 is capable of providing ADSL with the equipment of
10 electronics when a less costly network might provide
11 perfectly satisfactory voice grade service, accommodate
12 modems, and so forth, is that correct?

13 A Well, I don't agree that the Hatfield network --

14 Q I wasn't asking about Hatfield, sir.

15 A Please repeat your question.

16 Q Yes. Isn't it possible to construct a network
17 that is capable of providing basic local service, including
18 modem traffic, and yet have that network not be ready but
19 for the addition of electronics to provide ADSL?

20 A I guess I get a little disconnected when you
21 start to talk about acceptable modem traffic. It certainly
22 is possible to construct a network that will accommodate
23 reasonably satisfactory voice grade type services at a cost
24 that is less than constructing a network that will be
25 compatible with the deployment of advanced services. I have

1 difficulty with the modem issue, because as we heard in
2 earlier testimony, the bit rates at which modems can operate
3 are sensitive to the copper cable distance as well as analog
4 to digital conversions. And so when you start to throw
5 modems in there, you are beginning to border on whether or
6 not modem transmission is in and of itself an advanced
7 service. And in my mind it is.

8 Q All right. On Page 9 of your testimony you state
9 that when the HAI model is run for GTE in the State of
10 Florida, the results produce 254 clusters that have greater
11 than 1800 lines.

12 A I'm not quite with you yet.

13 Q I'm sorry, Page 9, Line 15.

14 A I'm with you.

15 Q Isn't it true that when HAI produces a cluster
16 that has greater than 1800 lines, it in effect splits the
17 cluster and serves it using multiple DLC remote terminals?

18 A I think that may be true, yes.

19 Q And is that essentially what BCPM does when it
20 has an area with greater than 999 lines, it then serves that
21 area with multiple DLCs?

22 A That is true. I think you need to be careful of
23 the placement of the multiple DLCs. If you are going to
24 deploy multiple DLCs, then I think it would be optimal to
25 deploy them to different areas within the cluster. And I

1 don't think Hatfield does that, although I don't know that
2 for sure. I believe BCPM does do that.

3 Q But you're not sure how Hatfield does it?

4 A I don't believe they deploy them at different
5 locations, but, no, I'm not sure.

6 Q On your direct at Page 13, Line 17, I understand
7 that one of your criticisms of HAI is that it produces
8 average drop links of 63 feet for an area where a Bellcore
9 study indicated average drop links of 73 feet, is that --

10 A Yes, that's correct.

11 Q Isn't it true -- and that is roughly a 14 percent
12 shortage, is that correct? Will you accept that subject to
13 check?

14 A I will accept that math, yes, subject to check.

15 Q Isn't it true that BCPM produces an average drop
16 length in excess of 150 feet, which is more than twice what
17 is indicated by the Bellcore nationwide study?

18 A I have not conducted a sensitivity analysis of
19 the average drop length contained in BCPM.

20 Q So the answer is you don't know?

21 A That's correct.

22 Q If we could turn to Exhibit TJT-2, which is the
23 analysis of the HAI model release that I guess was
24 co-authored by your firm and Doctor Tardiff's?

25 A That's correct.

1 Q All right. On page -- and there are two sets of
2 page numbers. I'm in the text of the document. I'm
3 actually looking at the numbers on the bottom of the page.
4 Page 5 of the document, which I guess in the upper
5 right-hand corner is labeled Page 9 of 347.

6 A I'm there.

7 Q All right. Do you see about the third bullet, it
8 says the HAI model builds its network only to accommodate
9 working lines, consequently there is insufficient spare
10 capacity to allow the telephone company to respond quickly
11 to a request for new installations.

12 A Yes, I see that.

13 Q Is it your testimony that there is no spare
14 capacity built into the HAI produced network?

15 A No, that's not my testimony, at least not for all
16 components of the HAI network. In general, what spare
17 capacity is contained in the model is insufficient.
18 Specifically, the fiber-optic cables that are used in the
19 DLC are used at 100 percent fill, which is inappropriate.
20 The fact that the model fails to build to all housing units
21 is certainly problematic with respect to reasonable
22 installation intervals.

23 Q Do you know how much spare capacity BCPM builds,
24 for example, in distribution plant?

25 A I do not. Let me add here, though, that --

1 Q No, sir, you answered my question. Thank you.

2 MR. WILLIAMS: I think he was going to --
3 withdraw.

4 BY MR. MELSON:

5 Q Turn, if you would, to Page 18 of the exhibit.
6 Again, I'm looking at the numbers at the bottom of the page.
7 I guess it's Page 22 of 347. If I understand the second
8 sentence at the top of the page, it is a criticism of the
9 Hatfield model for assuming too much aerial distribution
10 cable in the two highest density zones, is that correct?

11 A That's correct.

12 Q And the assumption that is criticized is the
13 assumption of 60 percent and 85 percent in those two zones,
14 is that correct?

15 A Yes.

16 Q Are you aware that GTE assumes 73.9 percent in
17 each of those two zones?

18 A Assumes that in what context? In the cost study
19 or --

20 Q Would you accept that GTE inputs into the BCPM an
21 aerial fraction of 73.9 percent for each of the two highest
22 density zones?

23 A I have not seen that, I can accept your
24 characterization of it. I do need to caution, however, that
25 it's very important in this area when talking about aerial

1 cable that we understand the definitions of aerial cable.
2 The Hatfield model actually is talking here about riser and
3 block cable. There is no structure associated with this
4 particular type of aerial cable within the Hatfield model.
5 In other words, you will find no telephone poles for aerial
6 cable in the two highest density zones. I'm not at all sure
7 what the definition of the aerial cable is that you're
8 referring to in whatever GTE filing you are mentioning.

9 Q So you don't know whether the GTE number of 73.9
10 percent is or is not comparable to the 60 and 85 percent in
11 the HAI?

12 A I don't know that.

13 Q If you would turn to Page 31 of that exhibit,
14 please. And the paragraph at the top of the page, if I
15 understand the substance of that, it is a criticism of HAI
16 for obtaining pricing information and then choosing as the
17 model's default value one of the lowest values rather than
18 an average or something else. Is that a fair summary?

19 A Yes, it is.

20 Q And the example you use is HAI using a cost of 60
21 percent for buried drop placement, is that correct?

22 A I don't see a percentage.

23 Q I'm sorry, 60 cents. It's getting late. I don't
24 even know what I said.

25 A I see that, yes.

1 Q All right. Do you know what buried drop
2 placement costs are used as inputs by any of the ILECs in
3 this proceeding into the BCPM model?

4 A I do not.

5 Q Would you accept subject to check that BellSouth
6 uses a placement cost of 58 cents, which is lower than the
7 HAI number?

8 A I will accept that.

9 Q Would you accept that the total installed cost
10 for buried drop placement for HAI is 74 cents, which is the
11 sum of the 60 cents here plus 14 cents of material cost?

12 A Yes, I will accept that.

13 Q And do you know whether GTE's installed cost is
14 greater or lower than that 74 cents?

15 A I don't know the answer to that question, but I
16 want to point out that the purpose of this paragraph is to
17 demonstrate the methodology that was used by the Hatfield
18 engineering team and the HAI team in general in selecting
19 its input values. The stated purpose of the survey was to
20 determine the average cost of the vendor (phonetic) survey
21 quotes. And that was intended to be used to validate
22 default inputs. It did not validate default inputs, and the
23 engineering team instead opted in most cases to go for the
24 absolute lowest value.

25 Q Well, to the extent the result of that process

1 was an input assumption that results in a higher total
2 installed cost than GTE Florida uses and a total installed
3 cost that is exactly equal to what Sprint uses, would you
4 agree that regardless of the process, the number isn't that
5 bad?

6 A In that particular case, yes. But if you examine
7 the inputs in total, you are going to find a significantly
8 downward bias.

9 Q And have you compared any of the other inputs to
10 the GTE inputs into BCPM for comparable equipment or
11 comparable inputs?

12 A No, I can't say that I have.

13 Q Doctor Tardiff, this next one is probably for
14 you. If you could turn to Page 45 of this exhibit. At the
15 top it's numbered Page 49 of 347.

16 A (Witness Tardiff) Right.

17 Q I take it that it's within the scope of your
18 testimony, the statement about two lines from the bottom of
19 the page, that in a competitive environment GTE may be
20 required to have more, not less spare capacity?

21 A Right.

22 Q And then I believe on the next page, about the
23 middle of the Page 46, you indicate that the introduction of
24 competition requires firms to be flexible enough to respond
25 to the vicissitudes of the market. Do you see that?

1 A Yes, I do.

2 Q If you've got a model that builds enough plant to
3 serve 100 percent of the market, and builds an amount of
4 spare equivalent to what GTE has in its network today, how
5 could competition possibly require GTE to have more spare
6 capacity than that in the future?

7 A The spare capacity that they have today is to
8 accommodate a situation that that is probably much more
9 certain that they are going to face in the future. Spare
10 comes about not only because of growth but because of
11 uncertainty of growth and things like churn, geographic
12 patterns, and the like. And those are the kinds of things
13 you have to be prepared to accommodate, to be able to
14 respond flexibly to changes not only in the level of growth,
15 but where it happens, where it occurs. And I think that's
16 what the quote from the FCC in the long distance market
17 illustrates.

18 Q So you are telling me that if GTE has got
19 sufficient network and spare capacity today to handle growth
20 and to accommodate that growth perhaps in unexpected places,
21 that is in a competitive environment where presumably they
22 will have less than 100 percent market share, that they are
23 go to need even more spare capacity?

24 A That could well be, because, first of all, the
25 market could grow with competition, so less than 100 percent

1 share of a bigger market could be more absolute volume for a
2 particular firm than 100 percent share of a smaller market.
3 But not only that, the pattern of growth will differ, and
4 the need to be flexible to take on customers as they come
5 along is likely to be a much bigger concern than it is when
6 you don't face that kind of competition.

7 MR. MELSON: That's all I've got. Thank you,
8 Commissioners.

9 CHAIRMAN JOHNSON: Mr. Hatch, do you have any?

10 MR. HATCH: No questions.

11 CHAIRMAN JOHNSON: Staff.

12 MR. COX: About two minutes worth.

13 CHAIRMAN JOHNSON: About how much?

14 MR. COX: About two minutes worth.

15 CHAIRMAN JOHNSON: Okay.

16 CROSS EXAMINATION

17 BY MR. COX:

18 Q Good evening, gentlemen. Will Cox on behalf of
19 the Commission Staff. And my questions are just directed to
20 Mr. Murphy.

21 One of the main differences between the BCPM and
22 the HAI model is in modeling distribution facilities, and as
23 it pertains to the maximum copper loop links allowed?

24 A (Mr. Murphy) That is correct.

25 Q Now, while BCPM generally constrains copper loops

1 from the DLC to the customer to 12,000 feet, the HAI
2 deliberately designs the loops out to 18,000 feet, is that
3 correct?

4 A Yes, it is.

5 Q Now, a copper loop beyond 12,000 feet requires a
6 larger gauge cable, doesn't it?

7 A Yes, it does.

8 Q And a loop extending beyond 12,000 feet from the
9 DLC requires an extended range line card, doesn't it?

10 A I think the actual cut off is in the vicinity of
11 13,400.

12 Q 13,400?

13 A Right.

14 Q So, as long as a copper loop link between 12,000,
15 or I guess you are saying 13,400 and 18,000 is provisioned
16 on 24-gauge cable with an n extended range line card,
17 shouldn't it work as well as a copper loop constrained to
18 12,000 feet?

19 A Work for what purposes?

20 Q For the purposes of the grade of service that we
21 are talking about for universal service here?

22 A If that grade of service is considered to be
23 restricted to voice transmission, then, yes, I would agree
24 with you. If that grade of service is intended to
25 accommodate, say, today's modem speeds, which typically go

1 up to 56 kilobits, I would not agree with that.

2 Q Would that be able to handle a 28x8 speed modem?

3 A Close to. I think there was a more accurate
4 discussion than I can provide provided by Doctor Duffy-Deno
5 on those issues the other day, but close to.

6 Q So then would the main differences in costs
7 between the two models be really between the two types of --
8 let me strike that. Then would any differences in cost
9 between the two types of installation be the sole basis for
10 choosing one over the other?

11 A Could you repeat that, please.

12 Q Sure. We are still in the context of talking
13 about the two different models and the constraints one
14 having a 12,000 limitation and the other having 18,000?

15 A Yes.

16 Q Based on the discussion we have just had, would
17 any differences -- then necessarily would any differences in
18 cost between the two types of installation be the sole basis
19 for choosing one over the other?

20 A No, that certainly shouldn't be the sole basis
21 for choosing one over the other.

22 Q Okay. Would it be a primary basis?

23 A No, I don't think so. I think there is a myriad
24 of items that have to be examined. Many of them have been
25 laid out in Exhibit TJT-2. One item that I would urge you

1 to you look at is the T-1 copper issue, the MST issue.

2 Q We are talking about voice trade service, and you
3 are saying that basically at a point they can provide the
4 same level of voice grade service, it wouldn't come down to
5 the installation costs as being the primary driver and
6 difference?

7 A It is a driver in cost difference, but I don't
8 believe for a minute it's the only criteria that you should
9 judge the two models on.

10 Q That's not what I'm saying. I'm asking you about
11 with regard to the specific, the specific factor. I mean,
12 this limitation that we are talking about in the 12,000 foot
13 versus the 18,000 foot limitation, and you are trying to
14 decide which is the proper limitation in this respect.

15 A Okay. So you are asking me to help with your
16 decision as to whether you should go for 12,000 feet or
17 18,000 feet, is that --

18 Q Right. Basically, what basis would you choose
19 between those two?

20 A Well, there is obviously a cost difference, there
21 is a service quality difference with respect to -- not with
22 respect to voice grade services, but with respect to modem
23 speeds and with respect to the compatibility of the network
24 to handle advanced services. I have difficulty separating
25 the MST argument from this particular item because if you

1 fixed the MST problem then the copper loop links in the
2 distribution obviously have to get bigger, and that being
3 the case, your cut off points and your cluster development,
4 for example, is going to change.

5 Q Assuming that each provide the same grade of
6 service, wouldn't the cost of installation be the primary
7 thing you would look at? What else would you look at if you
8 assume that they were providing the same quality of service?
9 And we are talking in the limited context of universal
10 service in this context.

11 A If your only consideration is cost and the only
12 service that you want to provide to the consumers here in
13 Florida is a voice grade service, then, yes, it would be
14 acceptable to use an 18,000 foot standard. But if you want
15 your consumers here in Florida to be able to use their
16 modems effectively and to have a network that will be able
17 to offer the advanced services that the FCC says the network
18 should not impede the provision of, then you should stick
19 with the 12,000 foot standard. The 12,000 foot standard, I
20 need to point out, as I already have several times, is the
21 current standard that not only GTE, but all of the ILECs use
22 across the country. I see no reason to go backwards to the
23 revised resistance design standard that was the predecessor
24 to the current standard.

25 Q Does the standard that you are saying we should

1 not go back to, does that meet the standard established by
2 the FCC in its fourth reconsideration order on universal
3 service with the 300 to 3000 Hertz grade of service?

4 A I'm not familiar with the grade of service that
5 you are citing. I will accept that that type of language
6 may be in the FCC's order, but in addition to that type of
7 language is the language that deals with the deployment of a
8 network that will not impede advanced services. I think
9 that if you are going to stick with one of the FCC's
10 criteria, then you probably should be consistent and stick
11 with all of them.

12 Q So you are not familiar with the bandwidth
13 standard that the FCC has prescribed?

14 A If it is in the universal service order, I'm sure
15 I have read it. I'm not -- at this point in time, it
16 doesn't come to mind exactly where it is. But I accept your
17 characterization.

18 MR. COX: Thank you, Mr. Murphy.

19 MR. WILLIAMS: No redirect.

20 CHAIRMAN JOHNSON: Exhibits.

21 MR. WILLIAMS: Well, I had already mentioned the
22 testimony, the attachments, and the exhibits to the -- I'm
23 sorry.

24 CHAIRMAN JOHNSON: Yes. I identified the
25 exhibits, but I will admit 69 and 70 without objection.

1 MR. WILLIAMS: Yes, thank you.

2 (Exhibit 69 and 70 received into evidence.)

3 MR. REHWINKEL: Madam Chairman, before you make a
4 decision on adjourning, could I just ask if it is possible
5 to consider putting Mr. Sichter on? I believe he can get on
6 and off very quickly. I know it's late.

7 COMMISSIONER GARCIA: Why do you think you can
8 get off -- these gentlemen don't have questions, or --

9 MR. REHWINKEL: I think MCI said they had maybe
10 five minutes. He promised me he could cut his summary way
11 down.

12 CHAIRMAN JOHNSON: Actually, I have five minutes
13 for him in total, but polling over here, Mr. Henry --

14 MR. HENRY: I think I can do it in well under
15 five minutes if we are operating because he wants to get out
16 of here tonight.

17 COMMISSIONER GARCIA: How about if he cuts his
18 intro, too?

19 CHAIRMAN JOHNSON: One question.

20 MR. HENRY: Probably two questions, one minute.

21 CHAIRMAN JOHNSON: Go ahead and come forward.

22 COMMISSIONER GARCIA: I hope it has nothing to do
23 with the fine time we have been showing you here in
24 Tallahassee.

25 MR. REHWINKEL: Mr. Sichter, were you sworn

1 previously? Wer you sworn in?

2 WITNESS SICHTER: No.

3 (Witness sworn).

4 Thereupon,

5 JAMES W. SICHTER

6 was called as a witness on behalf of Sprint and, having been
7 duly sworn, testified as follows:

8 DIRECT EXAMINATION

9 BY MR. REHWINKEL:

10 Q Mr. Sichter, state your name for the record,
11 please?

12 A My name is James W. Sichter.

13 Q Did you previously file prefiled direct testimony
14 of some 17 pages in this matter?

15 A Excuse me, it was rebuttal testimony.

16 Q Rebuttal, I apologize.

17 A Yes, I did.

18 Q Accompanied by three exhibits?

19 A Yes.

20 Q Mr. Sichter, do you have any changes or
21 corrections to make to that testimony?

22 A No, I do not.

23 Q If I asked you the questions contained therein
24 today, would your answers be the same?

25 A Yes.

1 MR. REHWINKEL: Madam Chairman, I ask at this
2 time that Mr. Sichter's prefiled rebuttal testimony be
3 inserted into the record as though read.

4 CHAIRMAN JOHNSON: It will be inserted.
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1 **BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

2 **REBUTTAL TESTIMONY OF JAMES W. SICHTER**

3 **ON BEHALF OF SPRINT-FLORIDA, INCORPORATED**

4 **DOCKET 980696-TP**

5 **SEPTEMBER 3, 1998**

6

7 **Q. Please state your name and business address.**

8

9 **A. My name is James W. Sichter. I am Vice President-Regulatory Policy, for Sprint**
10 **Corporation. My business address is 4220 Shawnee Mission Parkway, Fairway, Kansas.**

11

12 **Q. Please describe your educational background and work experience.**

13

14 **A. I hold a B.A. in Economics from the University of Kentucky (1968), a Masters in Economics**
15 **from Wright State University (1972), and a Masters in Public Administration from University**
16 **of Missouri-Kansas City (1979). I have worked for Sprint since 1973. Prior to my current**
17 **position, I have held several positions with Sprint in the areas of costing and regulatory policy,**
18 **including cost analyst, revenue analyst, corporate strategic planning analyst, staff economist,**
19 **manager-policy research, director-regulatory and industry planning, director-service costs,**
20 **director-access planning, and assistant vice president-regulatory and industry planning.**

21

22 **In my current position I have responsibility for developing state and federal regulatory and**
23 **legislative policy for Sprint's Local Telecommunications Division. I also serve on the**
24 **Executive and the Advisory Committees of the Michigan State University institute of Public**

1 Utilities. In addition, I have been a member of the faculty of the Michigan State University-
2 NARUC Annual Studies Program since 1985, where I have taught course segments on a
3 variety of areas, including access charges, jurisdictional separations, competition, the
4 Telecommunications Act of 1996, and most recently, Universal Service and Access Charge
5 Reform. In the past, I served on a number of United States Telephone Association
6 committees, including chairing the USTA Policy Analysis Committee (1986-1989), Price Cap
7 Team (1987-1989), and Part 69 Concepts Committee (1989-1991).

8

9 **Q. Have you testified in other states?**

10

11 **A. Yes.** I have previously testified before the Iowa, Kansas, Missouri, and Nevada state
12 commissions.

13

14 **Q. What is the purpose of your testimony?**

15 **A.** The purpose of my testimony is to rebut Mr. Gillan's and Mr. Gueppe's recommendations that
16 average revenues be used in the calculation of the amount of universal service support that is
17 required, and Mr. Gueppe's proposal that a LEC's universal service support be determined by
18 "netting" revenue shortfalls against revenue surpluses. I will also offer some comments on the
19 geographic unit that should be used to determine universal service costs and support, and the
20 relationship between the geographic area used to determine universal service support and the
21 geographic area used to calculate unbundled network element prices.

22

23 **Q. How do Mr. Gillan and Mr. Gueppe recommend that the amount of required universal**
24 **service support be calculated?**

1 A. Under their proposal, each company would calculate its average revenue per residential
2 customer. This average revenue benchmark would include all revenues generated by
3 residential customers, including, for example, intraLATA toll, features, and access revenues in
4 addition to the basic service rate. The average revenue would then be compared to forward-
5 looking costs of providing this family of services in each wire center to determine the need for
6 universal service funding.

7

8 Q. Is the comparison between average revenues and costs an appropriate measure of the
9 need for universal service funding?

10

11 A. No. All that such a comparison can tell us is whether the revenues generated by existing rate
12 structures are, on average, covering costs. The issue of universal service, however, is not an
13 issue of revenue sufficiency. Although there may be some exceptions, ILECs today generate
14 sufficient total revenues to maintain the current level of telephone service penetration.
15 The issue, rather, is how the revenues needed to support universal service are collected. The
16 issue is one of rate structure—specifically, whether the existing practice of promoting
17 universal service by charging above cost rates for some services in order to charge below cost
18 rates for basic service is appropriate and sustainable in a competitive environment.
19 Using a revenue benchmark to determine the need for universal service subsidies masks, if not
20 completely defines away, the very issue—that of supporting universal service goals through
21 implicit subsidies—that needs to be directly confronted by the legislature and the Commission.
22 Adopting the approach recommended by Mr. Gillan and Mr. Gueppe would result in policies
23 that would be inconsistent with the Telecommunications Act of 1996. In addition, the failure
24 to replace implicit subsidies with an explicit, competitively neutral universal service fund will

1 inhibit, if not thwart altogether, the development of a fully competitive local exchange market
2 for most residential customers in the State of Florida.

3

4 **Q. How is Mr. Gillan's and Mr. Gueppe's proposal to use average revenues inconsistent**
5 **with the Telecommunications Act of 1996?**

6

7 **A.** The fundamental goal of the Telecommunications Act of 1996 is to promote competition in all
8 telecommunications markets, and particularly the local exchange service market. It was
9 equally recognized that competition will drive prices to costs, and that the historic practice of
10 supporting universal service through implicit subsidies built into non-basic services was not
11 sustainable in a competitive market. In order to preserve the policy goal of universal service
12 in a competitive environment, the Act requires that existing implicit subsidies be replaced by
13 an explicit universal service fund.

14

15 Mr. Gillan and Mr. Gueppe essentially ignore that requirement. At the heart of their approach
16 is the assumption that the existing rates for all services are both economically appropriate and
17 sustainable in a competitive environment. That assumption is simply wrong. The average
18 revenue benchmark that is the foundation of their proposals is the product of monopoly era
19 pricing practices wherein some services have been priced above cost and basic residential
20 services have been priced below cost.

21

22 What Mr. Gillan and Mr. Gueppe fail to consider is how that rate structure translates into
23 consumer telephone bills. Under the existing rate structure, the profitability of a customer is a
24 direct function of the mix of services used by that customer. A consumer who uses only basic

1 service would be unprofitable to serve; conversely, heavy users of toll and vertical
2 features—services that are priced substantially above cost—would be very profitable to serve.
3 And the reality is that consumers do, in fact, vary widely in their use of telephone services.
4 While most residential customers don't generate total revenues sufficient to cover the costs of
5 serving them, others are highly profitable to serve. The latter customers, of course, are very
6 attractive to new entrants; and indeed, competition can be expected to drive the prices to this
7 set of customers down towards cost, thereby eroding the source of subsidies for those
8 customers who do not generate enough revenues to cover the cost of serving them. Looking
9 only at average revenues masks or ignores what is the core issue: the wide variance in
10 revenues and profitability of individual customers—a variance that is the direct product of the
11 wide variance in profitability of individual services that is produced by the existing rate
12 structure.

13

14 **Q. Do you have evidence as to the variances in revenues generated by Sprint residential**
15 **customers in Florida?**

16

17 **A. Yes.** Sprint conducted an analysis of the revenues generated by a sample of 2,750 of its
18 residential customers in the service areas of what was then United of Florida from September
19 1996. The revenues included in the analysis were local service charges (including the
20 interstate SLC), features, intraLATA toll, and state and interstate access (originating and
21 terminating). The toll and access revenues were updated using July 1997 intraLATA toll and
22 access rates. The results of the study are summarized in the following table.

23

24

RESIDENTIAL CUSTOMER REVENUE DISTRIBUTION

(monthly, per access line)

	Total	Percent of	Local	Feature	Access	IntraLATA	Total
	Revenue	Total	Revenue	Revenue	Revenue	Toll	Revenue
	Category	Residential				Revenue	
		Customers					
8	<\$15	15%	\$12.62	\$.06	\$.59	\$.05	\$13.32
9	\$15-\$20	20%	13.12	.81	3.32	.23	17.47
10	\$20-\$25	17%	13.27	2.05	6.58	.50	22.40
11	\$25-\$30	13%	13.20	3.83	9.52	.80	27.36
12	\$30-\$35	11%	13.18	3.90	13.94	1.35	32.36
13	\$35-\$40	7%	13.38	4.35	17.52	2.17	37.42
14	\$40-\$45	5%	13.03	5.41	22.81	1.21	42.46
15	>\$45	12%	13.29	6.96	38.93	5.23	64.41
16	Average	100%	\$13.13	\$2.88	\$11.82	\$1.25	\$29.08

As clearly indicated by these results, all residential customers are not the same. While the average local revenues don't vary much over the distribution, average local revenues (\$13.13) constitute only 45% of the average total revenues (\$29.08) of residential customers. Consumption of vertical features and toll/access, however, varies significantly. The 12% of residential customers in the highest revenue category generate \$51.12 monthly in revenues from services other than local service, as compared to only \$.70 a month from the 15% of customers in the lowest revenue category. Since it is the toll/access and feature services that

1 are today the source of subsidies to support universal service, the inequities of the current
2 rate structure, and its unsustainability in a competitive market, are made readily apparent by
3 the revenue distribution data contained in the table above.

4

5 **Q. How would Mr. Gillan's and Mr. Gueppe's proposals thwart the development of a fully**
6 **competitive local exchange market for residential customers in Florida?**

7

8 **A.** As discussed above, some subset of residential customers are heavy users of toll and vertical
9 features, and would represent an attractive market to a facility based competitor. However,
10 the vast majority of residential customers yield revenues that would make them unprofitable
11 or marginally profitable for a new entrant to serve. This is clearly demonstrated in the
12 following table, which is based on a comparison of the total revenues generated by a
13 customer with the costs of serving that customer. For this analysis, I used the BCPM costs,
14 averaged at the wire center level, filed by Sprint in this proceeding to determine local service
15 costs. Since the BCPM costs used in this study do not include any of the additional costs
16 associated with toll/access and features, I used conservative estimates of the forward-looking
17 costs for each of these discretionary features.

18

19

20

21

22

23

24

1 to a facility-based competitor. However, the primary conclusion to be drawn from this
2 evidence is that the residential segment of the market is, under existing rate structures, simply
3 not attractive to a facility-based entrant. In light of this data, the almost total absence of
4 facility-based competition in the residential segment in this country should come as no
5 surprise. And unless the legislature and the Commission take steps to restructure rates and/or
6 universal service funding to make the residential marketplace economically attractive to serve,
7 there will never be vibrant facility-based competition in this segment of the market.

8

9 **Q. What is Sprint's recommended approach?**

10

11 **A.** Sprint would recommend, first, that the Commission quantify the existing level of subsidy to
12 residential local exchange service, calculated as the difference between the residential basic
13 service rate and the cost of providing the service. Second, Sprint advocates the elimination of
14 existing implicit subsidies, and particularly the subsidy contributions embedded in access
15 charges. To some degree, this could be accomplished through rate rebalancing—i.e.,
16 increasing residential local service rates to cost levels. However, Sprint also recognizes that
17 full cost-based rates for residential basic service, especially in high cost areas, could jeopardize
18 the goal of universal service. Therefore, Sprint recommends that the Commission determine a
19 maximum affordable rate standard for basic residential service; to the extent that the cost of
20 providing that service in a particular area exceeds that rate, the difference would be funded
21 through an explicit, competitively neutral universal service fund. Sprint's plan would be
22 revenue neutral. Any revenues generated by local service rate increases or new universal
23 service funding would be offset, dollar for dollar, in reductions in existing implicit subsidies.
24 Any subsidies provided through the new universal service fund would be portable, thereby
25 increasing the incentives of new entrants to serve residential customers in higher cost areas.

1

2 Q. Mr. Gillan points out (pages 8-9 of his testimony) that if you compare only the local
3 service rate to total local service costs, it might appear that a customer is being
4 subsidized or needs to be subsidized when, in reality, that customer is highly profitable,
5 considering the additional revenues generated by that customer's use of other services.
6 Why should we provide a subsidy to LECs for serving customers who are already
7 profitable?

8

9 A. Mr. Gillan's observation is based on the assumption that implicit subsidies would remain intact
10 at the same time a new universal plan is implemented. That is certainly not Sprint's proposal.
11 The flaw in Mr. Gillan's logic is best demonstrated in terms of his own example. Mr. Gillan
12 uses the example of a customer who generates \$15 in local service revenues and \$10 in
13 optional service revenue. Correspondingly, the cost of local service is \$20 and the cost of the
14 optional services is \$1. Mr. Gillan argues that if we compare the local service rate of \$15 to
15 the local service costs of \$20, it appears that the customer needs a subsidy in the amount of
16 \$5, whereas in reality the customer's total revenues of \$25 exceed the total costs of \$21—i.e.,
17 the customer is already profitable to serve and the service provider doesn't need a subsidy to
18 serve that customer.

19

20 What Mr. Gillan misses is the dynamics of universal service reform. Under Sprint's proposal,
21 at least, universal service funding would not increase a LEC's total revenues. Rather, it would
22 be used to replace implicit subsidies on a revenue neutral basis. In terms of Mr. Gillan's
23 example, the customer is profitable today only because the below cost rate paid by that
24 customer for local service is more than offset by the above cost rate paid by that customer for
25 optional services. What would happen under universal service reform is that the implicit

1 subsidy built into the optional service rates would be eliminated. Consequently, the revenues
2 generated by the customer in the example would decrease by \$9 (the difference between the
3 existing rate of \$10 and the cost of \$1). If nothing else happened, that customer would now
4 be unprofitable, yielding revenues of \$16 compared to costs of \$21. Thus, a universal subsidy
5 in the amount of \$5 (or, alternatively, an increase in the local rate) would not only be
6 warranted, it would be absolutely necessary in order to provide LECs with the incentive to
7 serve that customer.

8
9 The only other alternative to keep that customer profitable to serve is to maintain the high rate
10 for optional services. Apparently, this is the situation envisioned by Mr. Gillan. It is a result
11 that most certainly would not obtain under Sprint's universal service proposal.

12
13 **Q. Mr. Gillan asserts (page 12) that it is not an unusual commercial practice to price some**
14 **products high and others low when they are all part of a family of services. Why**
15 **couldn't the same approach be taken for telephone services?**

16
17 **A.** In the examples cited by Mr. Gillan, the provider has a reasonable expectation that the
18 consumer will purchase the high priced items in addition to the low priced item. That is, one
19 would expect that a customer who buys a razor handle will also purchase razor blades, since
20 the razor handle would have no usefulness without them. That is not the case with the
21 product set of telephone services. Local service is a valuable and useful service in and of
22 itself, consumers don't have to purchase any additional services for their local service to be
23 fully functional and valuable. The discretionary nature of these additional services, and the
24 degree of independence of demand for these services from the demand for basic service, is
25 evidenced by the revenue distribution data provided above; a substantial proportion of

1 customers make little or limited use of services beyond basic local service. At least at today's
2 level of rates for non-basic services, a pricing strategy that presumes most customers will
3 purchase enough high priced discretionary services to offset the below cost price for basic
4 service would be ill-founded.

5

6 **Q. Mr. Gueppe argues (page 16 of his testimony) that if all revenues are not included in**
7 **the benchmark, "...the universal service fund would be sized too large..." and "...an**
8 **inflated universal service fund would mean that consumers would face prices for**
9 **telecommunications services that are too high." Do you agree?**

10

11 **A. No.** To begin with, it is important to recognize that the "universal service fund" that exists
12 today in the form of implicit subsidies is already "large". The only way to reduce or eliminate
13 universal service funding needs is to increase local service rates to cost. Absent that, all that
14 would happen is that the large subsidies built into existing rates would be replaced by an
15 equally large universal service fund that would be explicit, specific, and predictable, as
16 required by the Telecommunications Act, as well as being portable and available equally to all
17 eligible telecommunications carriers.

18

19 Mr. Gueppe's assertion that universal service funding would increase prices for consumers is
20 simply wrong. Mr. Gueppe makes the same erroneous assumption made by Mr. Gillan that
21 universal service reform would keep existing rate structures intact. That, again, is certainly
22 not Sprint's proposal. ILECs don't require any additional revenues to maintain the level of
23 universal service that exists today. All that is required is that existing implicit subsidies be
24 replaced by explicit universal service funding. Overall industry prices do not need to increase
25 to maintain the current level of universal service, and would not increase under Sprint's

1 proposal.

2

3 O. Mr. Gueppe also argues (page 19 of his testimony) that revenue shortfalls (where the
4 costs at a wire center level exceed revenues) should be netted against revenue surpluses
5 (where the revenues exceed the costs at the wire center level) in determining whether
6 or not a LEC needs universal service support. Do you agree?

7

8 A. No. To reiterate, universal service reform is an issue of rate restructuring, not of revenue
9 levels. As discussed previously, the existing level of revenues of ILECs is sufficient to
10 maintain the current level of universal service. What is needed is not additional revenues, but
11 a restructuring of how universal service funding is collected.

12

13 Most disturbing about Mr. Gueppe's proposal, however, is the assumption that it is not
14 necessary to construct a universal service fund that is portable and available equally to all
15 eligible telecommunications carriers. Under his proposal, a wire center that was clearly
16 unprofitable would not be eligible for universal service funding if the ILEC currently
17 providing service in that wire center was generating revenues in excess of its costs in other
18 geographic areas. In those circumstances, there would be no incentive for a new entrant to
19 provide service in that wire center, since it could not expect to earn a profit in doing so. The
20 result is directly contrary to the fundamental goal of the Telecommunications Act of
21 1996—the goal of bringing competitive alternatives to all consumers.

22

23 Q. Mr. Gillan argues that the geographic unit used to determine universal service costs
24 and unbundled network element cost should be the same. Do you agree?

25

1 A. Yes. Unless these two costs are determined on a reasonably consistent basis, there will be
2 opportunities for uneconomic arbitrage. Take, for example, a wire center where the average
3 cost is \$50, and where universal service funding of \$20 is available. If a CLEC can obtain
4 unbundled elements at \$40, because they were based on more broadly averaged costs, then
5 the CLEC would obtain an unfair advantage over the ILEC, since the ILEC would have to
6 recover \$30 (i.e., the difference between its costs of \$50 and its support receipts of \$20)
7 through its retail charges while the CLEC would have to recover only \$20 (the difference
8 between its unbundled network element costs of \$40 of its support receipts of \$ 20).
9 Obviously, if the unbundled network element rates were above the costs used for universal
10 service purposes, it would be the CLEC that would be disadvantaged.

11
12 However, there are ways to adjust for differences in the computation of universal service
13 costs and unbundled network element costs. Essentially, universal support payments to a
14 CLEC could be adjusted down (or up) by the difference between unbundled network element
15 and universal service costs. In terms of the above example, the CLEC's universal service
16 support would be reduced by \$10, reflecting the fact that its costs for unbundled elements
17 (\$40) were that much less than the costs used for universal service purposes (\$50).
18 Obviously, this would be administratively cumbersome, and developing unbundled network
19 element costs and universal service costs on the same basis would be far more preferable.
20 My reason for pointing out this option is to demonstrate that the appropriate level of
21 geographic disaggregation of costs for universal service purposes should be determined on its
22 own merits, not on the basis of the current level of deaveraging of unbundled network
23 element prices. To the extent that universal service funding is based on a geographic unit
24 different from that used for unbundled network elements, the Commission could use an
25 adjustment mechanism such as I described above to reconcile the differences for the duration

1 of whatever transition period is required to make unbundled network element prices
2 consistent with the development of universal service costs.

3

4 **Q. What is the appropriate geographic unit for the calculation of universal service costs?**

5

6 **A.** As a general principle, the geographic unit used for universal service (and unbundled network
7 elements) should be one in which the costs of service within that geographic area are
8 relatively homogeneous. Basing universal service funding on the average costs in a
9 geographic area that encompasses both very low cost and very high cost areas is undesirable
10 for several reasons.

11

12 First, high cost areas with exactly the same level of costs would not necessarily receive the
13 same level of universal service support, since that support would be calculated based on the
14 average costs of some broader geographic area of which the high cost area is only a part.

15 That is, the support received by any particular high cost area would be primarily a function of
16 the cost characteristics of those other areas included in the same geographic area used for the
17 determination of universal service support. In fact, a truly high cost area might receive no
18 universal service support if the geographic area, as defined for universal service purposes, in
19 which it happens to be located is comprised of low cost as well as high cost areas such that
20 the average cost within that area is below the level needed to qualify for universal service
21 support.

22

23 Second, basing both universal service support and unbundled network element prices on
24 highly averaged costs distorts the competitive marketplace. New entry would be deterred in
25 low cost areas to the extent that the averaged unbundled network prices greatly exceeded the

1 actual costs of providing the facilities in those areas. Conversely, averaging can produce
2 artificial arbitrage opportunities. For instance, a facility-based entrant could choose to
3 construct facilities in only lower cost areas—and receive universal service support for doing
4 so—and, to meet its eligible telecommunications carrier obligation, serve high cost customers
5 through resale.

6

7 **Q. What empirical evidence do you have as to the proper level of disaggregation of costs
8 for universal service purposes?**

9

10 **A. Sprint's cost study filed in this proceeding calculates costs at the wire center level. However,
11 in order to analyze the appropriateness of using wire center level costs, we have also looked
12 at costs disaggregated to the Census Block Group (CBG) level. The wire center maps,
13 included as part of my testimony in Exhibit JWS-1, provide CBG level cost estimates, based
14 on the BCPM costs submitted by Sprint in this proceeding, for each CBG in that wire center.
15 What the data demonstrates is that even within a wire center, there can be significant cost
16 variances. For example, the average cost in the Tallahassee wire center is \$28.45, but costs in
17 specific CBGs within that wire center range from a low of \$17.99 (37% below the average)
18 to a high of \$144 (over five times the average).**

19

20 **Q. Does Sprint advocate that universal service be based on CBGs?**

21

22 **A. Not at this time. Basing universal service support on CBGs or similar levels of geographic
23 disaggregation would pose formidable, although not insuperable, administrative issues.
24 Sprint recommends, therefore, that universal service support initially be based on wire center
25 average costs. However, Sprint equally believes that the Commission should reevaluate the**

1 level of disaggregation in two to three years, to determine whether market circumstances
2 warrant or necessitate basing universal service support on a more disaggregated basis.

3

4 **Q. Does this conclude your testimony?**

5

6 **A. Yes.**

1 MR. REHWINKEL: And that his Exhibits JWP-1
through 3 be identified as a composite exhibit.

3 CHAIRMAN JOHNSON: They will be identified as
4 Composite Exhibit 71.

5 (Composite Exhibit 71 marked for identification.)

6 BY MR. REHWINKEL:

7 Q Mr. Sichter, with the glare of dozens of eyes
8 upon you at this late hour, do you have a summary to give of
9 your testimony?

10 A Yes, a brief one. The purpose of my rebuttal
11 testimony will address certain recommendations of Mr.
12 Gillan and Mr. Guepe. To some extent I'm covering the same
13 ground as Doctor Taylor, so I just want to briefly make a
14 couple of points.

15 First, I want to emphasize that the issue of
16 universal service is primarily an issue of rate structures,
17 not of revenue sufficiency. The revenues to support
18 universal service in Florida exist today, the problem is how
19 those revenues are recovered.

20 Today we price local service below cost and make
21 up the shortfall by pricing other services, particularly
22 access, toll, and features above cost. And Congress clearly
23 recognized that this system of implicit subsidies was
24 unsustainable. That competition would erode those prices
25 and, therefore, the source of the universal service subsidy,

1 and that is why they required that the implicit subsidies be
2 removed and replaced with an explicit universal service
3 fund.

4 Secondly, and perhaps more importantly, it's
5 necessary to understand that the existing rate structure
6 effectively precludes facility-based competition to the vast
7 majority of customers. With local service priced below
8 cost, the only profitable customers are customers who are
9 heavy users of optional services, access, toll, features,
10 again.

11 The reality is that most customers do not, are
12 not profitable to serve. Sprint undertook a study of this
13 very issue looking at a sample of our customers in the State
14 of Florida, and what we found was that looking at the total
15 revenues generated by those customers, comparing that to the
16 total costs, that 29 percent of the customers, residential
17 customers were profitable. 71 percent did not generate
18 enough revenues, total revenues to cover their total cost.

19 Clearly, no rational facility-based competitor is
20 going to seek to serve those 71 percent of the customers.
21 On the other hand, the other 29 percent are somewhat
22 attractive to serve, and we can expect as competition
23 evolves for that small set of customers, the sources of
24 subsidy in universal service will begin to erode.

25 The solution to Sprint, at least, is clear.

1 First of all, we need to identify the difference between the
2 cost of serving customers and the basic local rate today to
3 identify the magnitude of the subsidy. Secondly, local
4 service rates should be increased, and to the extent
5 increasing local rates would jeopardize universal service,
6 the difference between rates and the costs should be funded
7 through an explicit competitively neutral, portable
8 universal service fund.

9 Any revenues generated from either local rate
10 increases or new universal service funding should be offset
11 dollar-for-dollar in a reduction in implicit subsidies. I
12 hope that was brief enough. Thank you.

13 MR. REHWINKEL: Mr. Sichter is available for
14 cross examination.

15 CHAIRMAN JOHNSON: Mr. Henry.

16 CROSS EXAMINATION

17 BY MR. HENRY:

18 Q Mr. Sichter, my name is Mickey Henry, and I
19 represent MCI in this proceeding. I have just have a very
20 few questions. Hopefully we can move through this thing
21 quickly.

22 You criticize Mr. Gillan and Mr. Guepe for
23 advocating the use of the average residential revenue
24 benchmark, correct?

25 A That is correct.

1 Q And you state, I believe, on Page 4 of your
2 testimony, that the use of this is inconsistent with the
3 Telecommunications Act of 1996?

4 A That is correct.

5 Q And you are aware, are you not, that the FCC has
6 adopted a similar type benchmark?

7 A The FCC in its May 7th, 1997, order did adopt the
8 revenue benchmark. I would point out a number of things
9 there. First of all, that they are wrong. Secondly, that
10 many petitions for reconsideration of that particular aspect
11 of the decision were filed. The FCC has not yet acted on
12 those petitions for reconsideration, and although it was not
13 one of the issues referred explicitly to the Joint Board at
14 the Seattle Joint Board meeting, the FCC quite explicitly
15 asked the Joint Board if they had any recommendations on
16 benchmarks, that they would be glad to entertain those. And
17 indeed there is a number of proposals out there that have
18 some currency, that would propose using cost benchmarks and
19 there is another one that has a variable benchmark. I do
20 not take it as accepted that the revenue benchmark is a done
21 deal.

22 Q So, in addition to Mr. Guepe and Mr. Gillan, also
23 the FCC, which is charged with administering this, is also
24 in violation of the act?

25 A In my opinion, yes. I mean, you are including

1 revenues that are the source of the implicit subsidies that
2 Congress mandated we get rid of and replace with explicit
3 subsidies, and that is inconsistent.

4 Q Let me ask you to turn to Page 13, very quickly.
5 There you discuss Mr. Gillan argues that the geographic unit
6 used to determine universal service costs and unbundled
7 network element costs should be the same. And there you
8 agree with Mr. Gillan, correct?

9 A Yes, I agree with Mr. Gillan and Mr. Guepe both
10 with one caveat. I don't know if Mr. Gillan made this
11 error, but Mr. Guepe did, and he argued that because -- that
12 universal service should be set on a statewide average cost
13 because apparently BellSouth has averaged statewide UNEs.
14 That, in my opinion, is compounding one error with another.

15 As I argue in my rebuttal testimony, we need to
16 move to implement USF at a disaggregated level at least at
17 the wire center and preferably below. I would absolutely
18 agree that having done that, and that is the proper thing to
19 do in this proceeding, that UNE prices be deaveraged to the
20 same geographic area.

21 Q Let me ask you to take a look at -- Madam
22 Chairman, could I have the next exhibit number?

23 CHAIRMAN JOHNSON: 72.

24 Q Let me ask you to look, Mr. Sichter, at something
25 that we are having marked as Exhibit 72, Hearing Exhibit 72.

1 And this is a -- it's an order of this Commission approving
2 an amendment to an interconnection agreement between
3 MCImetro Access Transmission Services, Inc., and
4 Sprint-Florida Incorporated. Have you got that?

5 A Yes.

6 Q Would you turn ten pages, actually to the
7 eleventh page back. It would be Page 11 of the document?

8 A Attachment A?

9 Q Yes.

10 A Yes, I'm there.

11 Q Now, if you go down to the part of that
12 attachment called loop, isn't it true that Sprint has or
13 does provide deaveraged loop rates in Florida?

14 A Yes, we did.

15 Q And so you would agree with me, would you not,
16 that USF for Sprint should be deaveraged to this same level
17 of geographic deaveraging that you provide UNE loop rates?

18 A Yes. This was a negotiated agreement, of course,
19 and what we did here was we grouped wire centers into six
20 categories and averaged the cost for those. I would
21 actually propose USF go further and do it on a wire center
22 specific basis. And, again, I will be glad to do the UNES
23 at that same level.

24 Q At the wire center level?

25 A Yes. All this does, if you look at, say, band

1 one, 1078, as I understand what we did is there is a number
2 of exchanges and they may be listed in here and which ones
3 are in wire center band one, and we averaged the cost for
4 all of those wire centers within band one to get the 1078.

5 Q Would you accept, Mr. Sichter, that Sprint's
6 proposal for its loops was actually for these six bands,
7 that the negotiations took place about the pricing that
8 would go in there? That it was Sprint's proposal to do
9 disaggregate down to six bands?

10 A Yes.

11 Q Okay. Is that consistent with what you have seen
12 in other places where your company has presented loop --
13 deaveraged loop proposals?

14 A You are going to clarify whether you are talking
15 about our CLEC side or ILEC side.

16 Q Your ILEC, incumbent LECs?

17 A Yes, we certainly recognized a need for
18 deaveraged loops and are willing to negotiate on that basis,
19 yes.

20 Q Okay. So, I take it then -- but you do have a --
21 if an ILEC has averaged rates, then, UNE rates, loop rates,
22 then shouldn't their USF also be on an average, on the same
23 level of averaging?

24 A No, I think I would disagree with that for the
25 following reason. I think, again, that USF needs to be

1 disaggregated to at least the wire center level. I will
2 tell you it is Sprint Corporation's opinion that average UNE
3 rates are contrary to the act, which requires cost-based
4 rates. And the solution to your issue, sir, is simply that
5 the UNE rates need to be deaveraged.

6 Q Well, in the absence of deaveraging, if you do
7 USF on a deaveraged basis, isn't true that unless these two
8 costs are determined on a reasonably consistent basis there
9 will be opportunity for economic --

10 A Oh, absolutely. But, again, the solution is not
11 to do USF wrong; it's to do the UNEs right. And that means
12 that USF should be deaveraged and UNEs should be deaveraged.

13 Q What should be the timing of that?

14 A Well, I think that I can't address that. You are
15 asking I think maybe a legal issue, and that is how quickly
16 can, for example, this Commission mandate other companies to
17 deaverage their UNEs. I don't know the answer to that. I
18 think that it has to be reasonably fast, but I can't define
19 fast.

20 Q Should this Commission try and synchronize the
21 timing of its establishment of an universal service fund at
22 a level of deaggregation being suggested and the
23 establishment of deaveraged UNEs on that same basis?

24 A I don't feel comfortable answer that yes, because
25 I don't know what is involved in that synchronization. I

1 will say that they need to proceed with USF at a
2 disaggregated basis and move with all due speed to deaverage
3 UNEs.

4 Q Synchronization is a fancy word. Shouldn't they
5 do it at the same time?

6 A Ideally.

7 MR. HENRY: That's all I have. I will yield the
8 balance of my time to the Chairman.

9 CHAIRMAN JOHNSON: Mr. Hatch, you didn't have
10 any, did you?

11 MR. HATCH: Just a couple. It shouldn't take
12 very long.

13 CROSS EXAMINATION

14 BY MR. HATCH:

15 Q You have a chart in your testimony on Page 6 that
16 is a revenue analysis of your customer base, or Sprint's
17 customer base as of September 1996, is that correct?

18 A That's correct, yes.

19 Q Have you updated this analysis to reflect --

20 A No, I have not.

21 Q -- any of the rate increases and the additional
22 revenues generated by additional tariff filings since that
23 1996 --

24 A No. As I point out in here, we did reflect July
25 of 1997 access rates, and it was also July intraLATA toll

1 rates. So it has been a little bit updated, but it is not
2 current. And my purpose was simply to write some semblance
3 of idea of what the revenue distribution looked like. It's
4 not going to be too sensitive to changes like that.

5 Q Have you undertaken or are you going to undertake
6 an update to this table?

7 A I have no explicit plans to do so, no.

8 MR. HATCH: No further questions.

9 CHAIRMAN JOHNSON: Did you say no further
10 questions?

11 MR. HATCH: No more questions.

12 CROSS EXAMINATION

13 BY MR. COX:

14 Q Good evening, Mr. Sichter. I just have a couple
15 of questions for you. Will Cox on behalf of the Commission
16 Staff.

17 You stated in your summary of your testimony, and
18 it states in the legislation that as a result of this
19 proceeding the Commission is to figure out the cost of
20 providing basic local service, is that correct?

21 A Yes.

22 Q For the purposes of this proceeding and the
23 report that we are going to file to the legislature coming
24 out of this proceeding, how would you define the word cost?

25 A How would I define the word cost? I would do

1 simp exactly the way Sprint Corporation has filed their
2 cost studies in this proceeding, using forward-looking costs
3 in the BCPM model.

4 Q Okay. Is that the total annual or monthly costs,
5 or is it the average per line cost that we should report?

6 A The average monthly cost per line.

7 Q Average monthly cost per line?

8 A Yes.

9 MR. COX: Thank you.

10 CHAIRMAN JOHNSON: Commissioners? Redirect?

11 MR. REHWINKEL: No redirect.

12 CHAIRMAN JOHNSON: Exhibits.

13 MR. REHWINKEL: I would like to move Exhibit 71.

14 CHAIRMAN JOHNSON: Show that admitted without
15 objection.

16 (Exhibit 71 received into evidence.)

17 MR. HENRY: Madam Chairman, I would like to move
18 Exhibit 72.

19 CHAIRMAN JOHNSON: Show it admitted without
20 objection.

21 (Exhibit 72 received into evidence.)

22 MR. HENRY: Thank you.

23 CHAIRMAN JOHNSON: We will adjourn and reconvene
24 tomorrow at 9:00.

25 (Transcript continues in sequence with Volume

1 18.)

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BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

In the Matter of DOCKET NO. 980696-TP

Determination of the cost of
basic local telecommunications
service, pursuant to
Section 364.025,
Florida Statutes

VOLUME 17

Pages 1936 through 2095

PROCEEDINGS: HEARING

BEFORE: CHAIRMAN JULIA A. JOHNSON
COMMISSIONER J. TERRY DEARON
COMMISSIONER SUSAN F. CLARK
COMMISSIONER JOE GARCIA
COMMISSIONER E. LEON JACOBS

DATE: Wednesday, October 14, 1998

TIME: Concluded at 7:30 p.m.

LOCATION: Betty Esley Conference Center
Box 148
4075 Esplanade Way
Tallahassee, Florida

REPORTED BY: JANE FACROT, RFR

(APPEARANCES: As heretofore noted.)

EXHIBITS - VOLUME 17

NUMBER	I.D.	ACCTO.
68		1975
69	2041	2063
70	2041	2063
71	2084	2094
72	2088	2094

I N D E X
WITNESSES

NAME	PAGE NO.
WILLIAM E. TAYLOR	
Questions by Commissioners	1939
FRANCIS J. MURPHY and TIMOTHY J. TARDIFF	
Direct Examination by Mr. Williams	1976
Filed Testimony of Witness Tardiff	
Inserted	1984
Filed Testimony of Witness Murphy	
Inserted	2019
Cross Examination by Mr. Malone	2041
Cross Examination by Mr. Cox	2058
JAMES W. SICHTER	
Direct Testimony by Mr. Behwinkel	2065
Filed Testimony Inserted	2084
Cross Examination by Mr. Henry	2086
Cross Examination by Mr. Hatch	2092
Cross Examination by Mr. Cox	2093

P R O C E E D I N G S

1

2 (Transcript follows in sequence from Volume 16.)

3 WILLIAM E. TAYLOR

4 continues his testimony under oath from Volume 16.

5 QUESTIONS BY COMMISSIONERS

6 COMMISSIONER CLARK: I suggest to you that people

7 that are going to provide them long distance will.

8 COMMISSIONER GARCIA: Exactly. Why wouldn't

9 they? I mean, if he is a big user who has a series of

10 lines, it's efficient to get to him -- I mean, if we were to

11 take all things equal as they are today, I'm sure that

12 people who had six or seven lines in their home, BellSouth

13 would probably waive costs to them. They would say, you

14 know what, don't pay for your local service. And then the

15 poor granddaddy who just has a basic line and doesn't get

16 any additional service, she is up the creek.

17 WITNESS TAYLOR: Right.

18 COMMISSIONER CLARK: She is paying for those six

19 lines.

20 COMMISSIONER GARCIA: And she is going to pay for

21 those six, plus we are going to say to her, let's pay a

22 little bit more because you are getting subsidized service.

23 Yet we are willing to subsidize Bill Gates and his beach

24 home in Key West.

25 WITNESS TAYLOR: Well, be careful; we're not

1 subsidizing Bill Gates. What we are doing is providing a
2 subsidy for loops whose cost is higher than average, or
3 higher than some standard. Bill Gates himself can stand or
4 fall on his own. Yes, it may be the case that Gates is such
5 an attractive customer that in order to market to Gates,
6 just like compar -- market to General Motors or something,
7 that you will put together a deal for him. Absolutely.
8 There will be lots of deals. But any company that is
9 obliged to provide his loop at a cost, at a price less than
10 the cost of supplying the loop, is at a disadvantage in that
11 war to become Mr. Gates' supplier. You know, it may be that
12 the end product will be AT&T gets him with some package
13 where the loops are free and will charge for the usage,
14 that's fine, because that is optional and that's the way
15 markets work. But in that competition, poor U.S. West has
16 to come into that competition with six hands tied behind its
17 back in the sense that it has to provide the loop if nobody
18 else wants to provide it. And, in fact --

19 COMMISSIONER CLARK: But, I guess, the assumption
20 in there is that you will have somebody who will not step
21 forward to provide it, and somebody will be obligated to
22 step forward and provide it.

23 WITNESS TAYLOR: Well, if the world were
24 perfectly symmetric as we started, I don't think we would
25 have a problem. But we do have a supplier of last resort

1 benchmark, which is the price of basic local service. And
2 we look at the difference between the benchmark and the cost
3 and that determines the size of the fund. The FCC has a
4 revenue benchmark --

5 CHAIRMAN JOHNSON: A cost benchmark. You have a
6 cost benchmark.

7 WITNESS TAYLOR: Well, I called it a price
8 benchmark, because I used the price of basic local service
9 and the difference between that and the cost of basic local
10 service which you determine here.

11 COMMISSIONER DEASON: So it's price compared to
12 cost, but it is -- it's based on cost, because price can
13 vary. If we have the latitude -- if the result of this
14 study and the legislation which ensues is to give this
15 Commission some flexibility on setting prices, obviously we
16 have latitude. If we keep the prices low, the needed
17 subsidy pool is going to be larger. If the prices increase
18 it's going to be less.

19 WITNESS TAYLOR: That's correct.

20 COMMISSIONER DEASON: Because once we determine
21 cost, they are set unless we, in several years look at cost
22 again under this process of reviewing costs. Now, you made
23 reference to a revenue benchmark?

24 WITNESS TAYLOR: Yes.

25 COMMISSIONER DEASON: And that there was some --

1 who is obligated.

2 COMMISSIONER CLARK: So what we need to do is
3 perhaps indicate some areas where we won't designate
4 suppliers of last resort, and they won't be -- and there
5 will be no universal service fund and people can compete for
6 that as they choose?

7 WITNESS TAYLOR: Well, yes, I guess if we had
8 sufficient local competition in some areas, maybe we are
9 talking about downtown Miami or something, that you could
10 safely take such a position, and all carriers could compete
11 for customers, charge whatever they liked for whatever
12 packages of service they want to put together, and it would
13 be just like an unregulated market. And there is nothing --
14 you know, as long as there is sufficient competition that
15 you can feel safe that customers will have access to the
16 network and can use the network, and there is nobody that
17 can reap monopoly profits, I think that's fine.

18 COMMISSIONER CLARK: Thanks.

19 COMMISSIONER DEASON: I have a question. When
20 you use the term benchmark in relation to universal service,
21 what do you mean by that?

22 WITNESS TAYLOR: I mean a standard, a dollar
23 standard which determines how much money should go to a
24 company that serves customers in that area. And in my view,
25 the benchmark is what I have called in my testimony a price

1 at least at the FCC level there was some discussion of that
2 and perhaps adoption of that. How does a revenue benchmark
3 compare to your definition of benchmark?

4 WITNESS TAYLOR: Well, it's similar except the
5 revenue benchmark looks at the revenue from all of the
6 services that use the basic loop.

7 COMMISSIONER DEASON: Now, is that customer
8 specific or is that average revenues for a wire center?

9 WITNESS TAYLOR: Well, it starts with customer
10 specific, that is they take revenue that each customer
11 spends and they average that, and it's calculated by wire
12 center. If that helps.

13 COMMISSIONER DEASON: So the amount of subsidy
14 pool needed is done on a wire center basis and it's based
15 upon the amount of revenue that wire center generates in
16 relation to the cost?

17 WITNESS TAYLOR: For those customers, yes. I
18 should say that is the way I would do it if I were doing
19 that. The FCC's number is a national number, so it
20 doesn't --

21 COMMISSIONER DEASON: Well, then it seems to me
22 you still have a distortion there, the competitors are still
23 going to target high revenue customers and could care less
24 about low revenue customers because the costs are still
25 going to be there.

1 WITNESS TAYLOR: Correct. Now, I'm not
2 advocating that.

3 COMMISSIONER DEASON: I understand, but I assume
4 that is part of the difficulty you have with that concept?

5 WITNESS TAYLOR: Yes, that is part of the
6 difficulty. The main difficulty is that it results in a
7 fund which is too small to overcome the subsidy that is
8 flowing to local, to the basic local exchange loop.

9 COMMISSIONER DEASON: If we have a wire center,
10 and just for example, it costs \$50 per line to serve that
11 wire center, and let's say that that wire center on average
12 produces \$30 per line in revenue?

13 WITNESS TAYLOR: Right.

14 COMMISSIONER DEASON: So there is a \$20
15 difference, and I assume that if someone wins a customer in
16 that wire center they are able to receive \$20 in subsidy?

17 WITNESS TAYLOR: In a revenue benchmark, yes,
18 that's what would be correct.

19 COMMISSIONER DEASON: Okay. But then a
20 competitor would want to target those customers who actually
21 have more, generate more revenue, so they are still going to
22 get the \$20. And the poor little old -- the grandmother out
23 there who doesn't do anything, they are only going to get
24 the \$20 to serve her, and they are going to be less
25 concerned about giving her competition.

1 WITNESS TAYLOR: That's correct, even within a
2 wire center in any of these plans there will be more
3 competition to serve high revenue customers than low revenue
4 customers. I mean, that's a fact of life.

5 COMMISSIONER GARCIA: Doesn't it beg the question
6 then that what we are doing is simply incentivizing the same
7 issue that brought us here today, the plight of these
8 customers, the loss of these customers from the BellSouth
9 base?

10 WITNESS TAYLOR: No, I don't think it's that so
11 much. I think it's making sure that whoever provides the
12 local loop to those customers isn't disadvantaged by the
13 fact that basic local exchange rates are priced below cost.
14 That's my view of it.

15 COMMISSIONER DEASON: Well, how do you structure
16 a subsidy fund so that it doesn't have competitive
17 distortions?

18 WITNESS TAYLOR: Well, it doesn't have
19 competitive distortions. Do you mean by a competitive
20 distortion that people try to attract high revenue customers
21 and not low revenue customers?

22 COMMISSIONER DEASON: Well, do you consider that
23 a distortion?

24 WITNESS TAYLOR: No, I actually don't.

25 COMMISSIONER DEASON: That is natural in

1 competition?

2 WITNESS TAYLOR: It isn't fun, but it's life. If
3 you walk into a car lot and you want to buy a car that's
4 loaded and someone else walks in and wants to buy the car
5 that's advertised in the paper, they will buy you coffee, but
6 they won't be terribly anxious to deal with the other. The
7 competitive distortion that I would like to iron out is to
8 make sure that everybody, all of the potential players, the
9 CLECs, ALECs, the ILECs, have no reason not to try to
10 provide basic local exchange service to every customer in
11 the state, in high cost areas and in low cost areas. That
12 is the big difference. I mean, that's what -- if you were
13 at 10,000 feet and were a Martian, and were wondering what
14 the big picture was, the picture is that there isn't any
15 competition or such competition particularly in rural areas
16 because no one can make money by providing loops at very
17 high cost out there, particularly when someone else already
18 has and is required to sell them at a statewide averaged
19 rate. And I want to undo that.

20 COMMISSIONER JACOBS: Let's take as a
21 hypothetical at the point at which a customer in a high cost
22 area provides revenues that exceed the benchmark, okay,
23 everything else beyond that point is marginal?

24 WITNESS TAYLOR: Correct.

25 COMMISSIONER JACOBS: So if we do that, we are

1 kind of setting artificial margins on those other services,
2 aren't we?

3 WITNESS TAYLOR: Well, let's see. We are in a
4 high cost area, we have Bill Gates who provides enough
5 revenue that it more than covers the cost of serving Bill
6 Gates. Under any kind of universal service fund that we are
7 talking about here, the company that puts in loops to serve
8 Bill Gates is going to draw from the fund some money. They
9 wouldn't need that money. Granted they would like to have
10 Bill Gates. In fact, what would happen I presume is they
11 would cut a deal with Mr. Gates, whatever package it is that
12 he bought, but they would be offering a package on the same
13 basis that another carrier, AT&T or MCI would who didn't
14 have to put in the loops, that you wouldn't be disadvantaged
15 because you had to sell Mr. Gates these \$100 costing loops
16 for a \$15 price.

17 COMMISSIONER JACOBS: Right. And when that
18 competitor comes in, he knows that Mr. Gates is going to buy
19 a package with bells and whistle services.

20 WITNESS TAYLOR: Right.

21 COMMISSIONER JACOBS: And he also knows that he
22 is going to get back from the fund. He is going to play all
23 kind of games with those margins.

24 WITNESS TAYLOR: That's right. That's
25 competition.

1 COMMISSIONER JACOBS: And my concern is that --
2 I'm kind of with Commissioner Garcia, I don't see how we
3 have cleared the market --

4 WITNESS TAYLOR: Well, I mean, this also goes to
5 Commissioner Clark's question. If your concern is that you
6 don't need the fund to ensure that Mr. Gates is going to get
7 high quality service, I'm with you. That is exactly right.
8 No problem, no problem as far as Mr. Gates getting service
9 is concerned. The problem is in the folks who are competing
10 to provide Mr. Gates service, whoever has to provide the
11 loop is at a disadvantage. Now that isn't fair, you know,
12 and as long as nobody -- well, if one person didn't have to
13 do it, then it probably wouldn't be a competitive asymmetry
14 or wouldn't be a terribly evil thing.

15 COMMISSIONER JACOBS: Give me your thoughts on
16 this. Let's say then we will go ahead and we are serving,
17 the provider gets the compensation from the fund, but at the
18 point where the bundle of -- where the total revenue from
19 that customer goes over, all the excess margins back off, we
20 back them off the fund support.

21 WITNESS TAYLOR: Okay. Do I like that? No, I
22 don't like that at all.

23 COMMISSIONER JACOBS: What would be your critique
24 of that?

25 WITNESS TAYLOR: Well, you see, first of all, you

1 plans which do precisely that. They tailor all of the
2 contribution to the people in principle who if you don't
3 give it to them they will leave the network, and that's the
4 right way to do social subsidization of individuals in a
5 targeted way. But the universal service fund is sort of
6 something else. I think in my mind at least, I assume that
7 you have done all of the efforts that are required to keep
8 low income people on the network separately with your Linkup
9 programs and your Lifeline programs. And that the purpose
10 of this universal service fund is to be able to set prices
11 that enable everybody to be on the network, high cost areas
12 and low cost areas alike, and so that we can encourage
13 companies to serve high cost areas and low cost areas alike.
14 And it's not so much to keep the poor on the network that
15 this addresses in my mind, but the other.

16 COMMISSIONER CLARK: Let me ask you a question.
17 I seem to recall when we did -- when the Florida Commission
18 introduced competition into the retail market, or at least
19 took action to facilitate that, they said when somebody came
20 in to serve a particular area, an equal access exchange
21 area, they had to serve everybody in that area.

22 WITNESS TAYLOR: Right.

23 COMMISSIONER CLARK: Does it make any sense to do
24 that same sort of thing here to prevent the cream skimming?
25 You know, you take a wire center and say if you are going to

1 wouldn't need to do it if the market for toll and vertical
2 services and all of these other services is competitive.
3 because the market will back that out. That is if I know if
4 I get Mr. Gates as a customer I can sell him a gazillion
5 dollars worth of toll, and I'm going to get a check from the
6 fund for \$5, what is going to happen to that \$5? Well, AT&T
7 knows that, MCI knows that, BellSouth knows that. That \$5
8 is going to disappear. It is going to be competed away in
9 the price of the package that I offer to Mr. Gates. So I
10 don't think as long as you have competition for toll, for
11 these other optional services, there is not a problem that
12 the \$5 is somehow going to go into someone's pocket and it's
13 a windfall. Competition will compete that \$5 away. What
14 will happen is that you will have a fund that is useful here
15 for competition, but not necessarily for keeping people on
16 the network, because Mr. Gates obviously is going to be on
17 the network no matter what. Does that help?

18 COMMISSIONER JACOBS: I'm not sure I share your
19 optimism.

20 COMMISSIONER CLARK: Yes. And why should we have
21 that kind of fund that is useful for competition but not
22 keeping people on the network?

23 WITNESS TAYLOR: Well, actually if I were a
24 Commissioner for a day, we have always talked about having
25 targeted subsidies, and, in fact, you do. You have Lifeline

1 serve anyone in that wire center you must be willing to
2 serve everyone.

3 WITNESS TAYLOR: Yes, I guess I don't see
4 anything terribly wrong with that. It's not something which
5 is very enforceable in the sense that, yes, they have to
6 hold themselves out to serve, but if I come in and my prices
7 aren't regulated, I can set prices that would discourage
8 anybody but the highest volume user from using my service.
9 I mean, it will be \$300 a month flat charge, but I will give
10 you a penny a minute for long distance. And, yes, I will
11 provide that to anybody in any wire center, but I'm only
12 going to have high volume customers that will come to me.
13 So, as long as these people -- as long as prices aren't
14 regulated, it's hard to enforce and have the desired effect,
15 I think.

16 COMMISSIONER CLARK: Unless we require them to
17 offer basic local service at a certain rate to everyone?

18 WITNESS TAYLOR: Yes. Unless you did that,
19 that's right. And, in fact -- but what that would do would
20 be to put every carrier, ILEC and ALEC alike at the same
21 disadvantage when they try to serve in rural areas.

22 COMMISSIONER CLARK: Well, then nobody has an
23 advantage.

24 WITNESS TAYLOR: Then no one has an advantage and
25 you have solved my problem, but I think you have created

1952

1 your own problem in the sense that companies that would
2 otherwise come in and serve in Florida, or in an EAS area in
3 Florida, or whatever, now would find it not profitable if
4 they couldn't --

5 COMMISSIONER CLARK: Cream skin.

6 WITNESS TAYLOR: If they couldn't cream skin,
7 yes.

8 CHAIRMAN JOHNSON: Let me ask you a follow-up
9 question on one of the points that you were making with
10 respect to the purpose of universal service. And I know
11 that you focused somewhat on the purpose being to make sure
12 that everyone is able to have access to the network, but you
13 talked about it more from a purpose of universal service is
14 to provide for more competitive markets by more accurate
15 pricing.

16 WITNESS TAYLOR: Yes.

17 CHAIRMAN JOHNSON: The competitive markets that
18 perhaps may be one of the reasons for having this high cost
19 fund, but those markets aren't going to happen overnight,
20 particularly in rural areas. And you can say -- you can
21 disagree with me. Even if you have the subsidy, the
22 competition won't occur overnight. So in my mind for some
23 percentage of time, I don't know, two years, three years,
24 four years, the rurals that may be paying increased rates
25 will be paying for the competition that is going to occur in

1954

1 past when subsidies have been made explicit, the 3.50 ELC
2 charge, then those people who don't use the network as much
3 are going to be paying more.

4 WITNESS TAYLOR: Yes. I agree with you, it
5 depends upon how it is recovered. All my point was that in
6 total the amount is the same. If you recover it as a tax on
7 usage or something like that, that's a very broad-based and
8 general tax. So from one perspective at least it's a good
9 thing. On the other hand, I should say the economists'
10 first choice in all of this is just like the subscriber line
11 charge, it's to raise the prices to cost for access to the
12 network to begin with, and we wouldn't be in this problem.
13 But it's because we have decided that is not good public
14 policy that we are trying to find another way to do it.
15 Subscriber line charges is just that same way we rejected
16 before in disguise. This is a way of spreading it out over
17 all services.

18 CHAIRMAN JOHNSON: Another point that you
19 mentioned in an explanation to one of Commissioner Clark's
20 points, or maybe it was Commissioner Deason, when you talked
21 about the revenue benchmark versus your price benchmark.
22 And you talked about the FCC methodology and the 75/25
23 percent distribution that they would recover, the 25 percent
24 and the 75 percent would be either not recovered or states
25 could come up with some mechanism. Do you know the status

1953

1 the urban areas?

2 WITNESS TAYLOR: Yes, except on average no one is
3 paying an increased rate. I mean, all we are doing is
4 shifting these costs around and paying them differently.
5 Yes, high volume users will pay more, low volume users will
6 pay less, but on average this is just a shifting of a
7 burden, it is not changing the total amount that people pay.

8 CHAIRMAN JOHNSON: Explain that to me.

9 WITNESS TAYLOR: Well, my view of the universal
10 service fund is you calculate a dollar amount of the fund by
11 whatever method you use, and that then is recovered, that
12 very amount, no more and no less is recovered from all
13 telecommunications users, generally all users of the public
14 switched network, generally as a broad-based tax. As a tax
15 on revenue or something like that. So in net there is no
16 change in the amount that people pay. That is the fund
17 causes people to pay less, the tax causes people to pay
18 more, and the two are set to be equal. I don't see it as an
19 increase in the aggregate amount that people pay. It's a
20 shift, but I don't think it's an increase.

21 COMMISSIONER CLARK: In the aggregate amount, but
22 doesn't it depend on how you recover that amount? If you do
23 it on revenues, as you suggest, then the companies who have
24 more revenues and customers who are paying more revenues
25 will pay more, but if do you it such as has been done in the

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1 of that particular policy that was stated in the FCC order?

2 WITNESS TAYLOR: I guess not recently. And I
3 read the order and I don't know of anything that has changed
4 since then. So I guess the short answer is no, I don't have
5 facts as to what the FCC is doing.

6 CHAIRMAN JOHNSON: And maybe you are not familiar
7 and you're right, they did state that in their order that
8 that was at least a placeholder until they determined what
9 they should properly do. In their report to Congress, I
10 think it was their April report to Congress, they stated
11 that that decision would be revisited. Do you remember --

12 WITNESS TAYLOR: I think I have heard that, and
13 it's also, is it not, a Joint Board matter, as well. It's
14 not simply the Commission. And, of course, it's a new
15 Commission from when 25 percent was established. So, I
16 mean, if I were to give you my opinion, I would say that
17 that is a number that is still in play, because the FCC is
18 behind and is dawdling on universal service sort of period.
19 I believe that number would be in play, too, but I'm not
20 sure that helps you in your deliberations.

21 CHAIRMAN JOHNSON: I was going to ask you to the
22 extent that they determine that they were going to whatever
23 the amount is between your assuming they pick a price
24 benchmark because they are revisiting that, too, and cost.
25 if they were to determine that all of it should be funded

1 through interstate revenues, does that affect anything that
2 you have articulated?

3 WITNESS TAYLOR: Well, not for you to decide at
4 the moment, I think. I mean, the way I understand it, and I
5 don't know how this fits into the Florida schedule, if I
6 were king in Florida what I would do would be to see what
7 the FCC has done, look at the size of their fund, all right.
8 But today in Florida, I would decide what size fund I need
9 in total to remove all of the implicit subsidies in rates in
10 Florida. So, I figure that out, I figure out what the total
11 size of the fund is, and maybe that comes to a 2 percent tax
12 on revenue. I don't know. So I put that down as a
13 placeholder and I sit and wait. And then in due course of
14 time, Washington tells me they have decided something, and
15 here is how much money Florida gets. Well, then I would
16 subtract that from the total amount that I need in Florida
17 and my tax wouldn't be 2 cents, but it would be a cent and
18 three-quarters, and I would be done. I don't know how that
19 fits into your legal processes, but that's sort of how the
20 economics of it, I think, ought to work. Assuming that you,
21 in Florida is the body that determines what the size of the
22 universal service fund when all is said and done in Florida
23 is. And I think that probably is correct, that it is your
24 obligation to do that.

25 CHAIRMAN JOHNSON: Do you think that we in

1 separate things, and I think we may get into trouble if you
2 try to means test a high cost fund, you know, or put high
3 cost on top of a Lifeline fund.

4 CHAIRMAN JOHNSON: Okay. I mean, you think we
5 could do a means test, the high cost fund, and say certainly
6 the costs in this area may be \$100 to serve a line, but
7 because Bill Gates can afford it, he is going to have to pay
8 his \$100. But you don't think that would be wise to do?

9 WITNESS TAYLOR: No, I do not think that would be
10 wise. Among other things, you would then have competition
11 to serve low income people in high cost areas, but we would
12 have my competitive problem when we are trying to find
13 service to high income people. But I guess the point is
14 that high income people can manage.

15 CHAIRMAN JOHNSON: They can pay it, so they would
16 continue to pay it.

17 WITNESS TAYLOR: Right. It may be inefficient
18 competition, but there will be enough of it that we don't
19 have to worry about it.

20 COMMISSIONER GARCIA: Should we distinguish it,
21 though, by ancillary service? Should we then -- shouldn't
22 we sort of target something that is essential for everyone
23 as what needs to be funded --

24 WITNESS TAYLOR: Yes.

25 COMMISSIONER GARCIA: -- and then let the market

1 Florida have the -- the Commission would have the ability to
2 set up a universal service fund that didn't fund high cost
3 areas, per se, but went to low income individuals in
4 addition to the Lifeline/Linkup program, but that we focus
5 in on some sort of means testing? Another question is how
6 would we do it, and that might be a graver question. But do
7 you think we have the authority to focus in on that?

8 WITNESS TAYLOR: Oh, sure. I mean, I think you
9 have already done it in the sense of a Lifeline program.

10 But I think that the place to look at that is in the context
11 of the Lifeline program. Is that means tested in Florida?

12 CHAIRMAN JOHNSON: Yes.

13 WITNESS TAYLOR: So, if you think that the
14 current levels of support coming from the Lifeline fund are
15 inadequate because poor people are being driven off the
16 network or for whatever reason, then reexamine the Lifeline
17 program, because that has the income test built into it,
18 whereas the universal service fund by its construction does
19 not. And I think it would be very difficult to sort of mix
20 the two. I think it is certainly convenient mentally, and
21 it may even be convenient legally to have one subsidy system
22 means tested to keep low income people on the network, and a
23 separate system to ensure that at regulated prices for basic
24 local exchange service all competitors have an equal
25 incentive to provide service. I think these are just two

1 take care of other forces?

2 WITNESS TAYLOR: That's correct.

3 COMMISSIONER GARCIA: By that, I mean, let's say
4 we have got someone living in a wood hut next to Bill Gates,
5 and it costs just as much to get that line to Bill as it
6 does to -- but the person in the wood hut, as long as they
7 get basic phone service, and what I'm talking about is
8 making a distinction as POTS, all they get is dial tone and
9 they get to call out as much as they want and receive as
10 much, but they've got no other vertical services. Then the
11 State targets those people for some type of implicit subsidy
12 or universal fund, but then Bill, who we all know is not
13 going to get one line; he wants an Internet provider, he
14 wants a fax machine, he wants a satellite control system, I
15 don't know what he wants, but BellSouth is willing to sell
16 it to him. In that case that there is no subsidy because
17 the other revenues that are generated by those services will
18 to some degree or another compensate the providers?

19 WITNESS TAYLOR: Well, yes, but if I understand
20 what you have said, it may be a dangerous thing. If the
21 deal is I'm the guy who lives in the house next to Bill
22 Gates, and as long as I only subscribe to basic service
23 BellSouth gets \$5 for hauling a line to me, but the moment I
24 subscribe to call waiting, my \$5 goes away, you can do that
25 if you like --

1960

1 COMMISSIONER GARCIA: Maybe.

2 WITNESS TAYLOR: But, first of all, that gets
3 competed away in the markets for these ancillary services,
4 which presumably are competitive, and toll would be a better
5 example. And, second, I think you would probably be accused
6 of providing second class service to high cost people, that
7 is -- or to people who only want access to the network. I
8 mean, you don't want to be in the position of telling people
9 you can have basic service, but, boy, if you have anything
10 more than that, the conditions are going to change. You
11 know, if you want to buy call waiting, we are going to
12 change the amounts of subsidy --

13 COMMISSIONER GARCIA: Well, but won't they change
14 by the very nature of the industry? In other words, won't
15 they change by the very nature of how business works?
16 Essentially when someone says, you know, I want to get Bill
17 Gates, and I certainly don't want to pay BellSouth for
18 resale. So they run their own loop or they buy the loop
19 from BellSouth, and now they are running up beside this
20 lady's house, or, I'm sorry, your house, you are living in
21 the shack, in the wooden shack there. And they say, you
22 know, we are here anyway.

23 WITNESS TAYLOR: Well, now you're saying it
24 doesn't cost us that much.

25 COMMISSIONER GARCIA: Yes.

1962

1 WITNESS TAYLOR: Well, the first part, to people
2 that don't need it, once we go to need it seems to me that
3 the question of high cost more or less disappears, and we
4 are back to sort of the universal service fund. If you are
5 dealing with a poor person in a shack next to Bill Gates,
6 then I think universal service -- the Lifeline fund is going
7 to have to keep such people on the network. And what I see
8 the use of the universal service fund is to enable us to set
9 a price below the cost of a loop for basic local service for
10 everybody, because we want to do that politically, not to
11 keep poor people on the network, because we have another
12 fund to take care of that, and to be able to undo the
13 distortions that setting a price below the cost of a loop
14 causes us to make.

15 COMMISSIONER GARCIA: And you don't think that
16 produces an artificial distortion in the other direction?
17 In other words, again, we will go back to the Bill Gates and
18 your scenario. I think Commissioner Clark used the formula
19 of it cost \$150 per line to service Mr. Gates up there on
20 this cliff. Before BellSouth was not charging what that
21 should have been, which is because we had this policy, so
22 you in the shack and Bill were getting the same. Now, AT&T
23 comes in and says, oh, man, I get \$150 from the State of
24 Florida, a government check, and I get Bill Gates' ten
25 lines, 400 distance calls, \$3,000 in vertical services a

1961

1 WITNESS TAYLOR: Okay, that's fine.

2 COMMISSIONER GARCIA: But, see, we are running
3 300 lines to -- you know, let's toss over a loop to this
4 guy, he is sitting there. And then they get your subsidy,
5 whatever it is for basic service, but then you say I want to
6 get vertical this, that, and the other thing, it may be
7 worthwhile to them without the subsidy.

8 WITNESS TAYLOR: Sure, but you have changed one
9 of the assumptions that we were making, namely --

10 COMMISSIONER GARCIA: Well, aren't those things
11 that are going to change? In other words, aren't I going to
12 compete in a different way when I go into downtown Miami?
13 In other words, when I go in there, I don't care what
14 BellSouth has got in the ground, I'm going to run my own
15 stuff most probably, or I'm going to put in an antenna in
16 the building next door, I'm going to put a -- and I don't
17 care what BellSouth has there. So there is going to be
18 duplication, and this Commission's job is not going to be to
19 avoid that costly duplication. But in the broader sense,
20 and I think Commissioner Clark touched on this, it's sort of
21 shouldn't we would be guaranteeing -- you're right, I'm not
22 guaranteeing the best service, I'm just guaranteeing you
23 service. But better than guaranteeing a subsidy to
24 people who don't need it, and something that to some degree
25 will probably hurt competition.

1963

1 month, and Florida is giving me a check.

2 WITNESS TAYLOR: Right. And MCI looks at this
3 situation and says exactly the same thing, and so does
4 BellSouth. And when it comes to Mr. Gates, they all come up
5 to Mr. Gates with their little presentation of what I can do
6 for you. And in this competitive market, the \$150 check
7 from the State of Florida, actually from the telephone users
8 of Florida --

9 COMMISSIONER GARCIA: They sign the back of the
10 check and they give it to Bill Gates, probably.

11 WITNESS TAYLOR: Well, it gets competed away,
12 let's put it that way. They are going to charge Mr. Gates
13 less for toll service because part of what they get when
14 they get Mr. Gates is a check from the people of Florida.

15 COMMISSIONER GARCIA: And then you are still
16 there in your hut, and Florida is paying you --

17 WITNESS TAYLOR: Well, Florida is paying whoever
18 serves me \$150, and that just means that MCI, AT&T and
19 BellSouth all can just apply me if they are efficient and
20 make a little bit of money, even if I don't make a phone
21 call at all. And now I have a choice. It's competitively
22 neutral. Those guys are all getting the same deal, and for
23 once in my life I get to choose.

24 COMMISSIONER GARCIA: Well, no, not for once in
25 your life, you get to choose now. The system we have now

1 let's you choose. We will run that wire wherever you live.
 2 You can live in the middle of the Everglades. This
 3 Commission's rules, more or less, will get to you and you
 4 don't pay more than the guy who is living in downtown.
 5 WITNESS TAYLOR: Oh, I understand that, but I
 6 don't get to choose among AT&T, MCI and BellSouth. I have
 7 to take whatever the ILEC is who is stuck with me.
 8 COMMISSIONER GARCIA: Right.
 9 COMMISSIONER CLARK: I just have one question.
 10 Getting back to the notion of requiring people to compete in
 11 the whole wire center. Might we say that if you serve one
 12 person you must serve them all, and you must provide basic
 13 local exchange service for the same amount as the incumbent
 14 ILEC?
 15 WITNESS TAYLOR: So you would have a regulated
 16 price for basic local exchange service. I will tell you
 17 what is wrong with that one. The problem is if ILECs --
 18 COMMISSIONER CLARK: If we don't have regulated
 19 price for basic local exchange service, how are we going to
 20 assure that it remains revenue neutral?
 21 WITNESS TAYLOR: Let me answer the first question
 22 and come back to that one. The problem is once people start
 23 packaging services together -- let's pick on AT&T. Once
 24 they provide local service as well as long distance service,
 25 they just have a package. I mean, suppose they came to your

1 on their door they have to provide bare bones service at
 2 \$15.
 3 COMMISSIONER CLARK: Right.
 4 WITNESS TAYLOR: They have an advantage that they
 5 don't have to provide local service in the wire center
 6 unless you can make that attractive to them. I mean, they
 7 still have the choice of providing toll in the wire center
 8 but not local service, and if they provide local service to
 9 one person, then they have to provide local service at \$15
 10 to everybody.
 11 COMMISSIONER CLARK: You are suggesting we won't
 12 have competition for local exchange service if we do that?
 13 WITNESS TAYLOR: Well, you may not, though if you
 14 did, it at least would be efficient competition, because --
 15 COMMISSIONER CLARK: Well, you know, I'm just
 16 thinking of some of the rural areas where you have prisons
 17 where people would be interested in providing them service,
 18 but then not providing the rest of the customers, say, in
 19 the wire center or the rural area. You know, how do we to
 20 some extent combat against that cream skimming, because if
 21 the cream skimming does occur it creates the greater need as
 22 I understand your testimony, or a universal service fund?
 23 WITNESS TAYLOR: Yes, it does, but I would
 24 certainly be wary about trying to drive cream skimming kind
 25 of out of the market. I mean, when we call it cream

1 house and said, all right, \$50 a month and we will only
 2 charge you a nickel a minute for your intrastate toll and
 3 six cents a minute for your long distance. What price are
 4 they charging you for basic local exchange service? I don't
 5 know.
 6 COMMISSIONER CLARK: Well, I'm saying that they
 7 have to -- they have to be willing to provide the bare bones
 8 service.
 9 WITNESS TAYLOR: Just the basic local exchange
 10 service.
 11 COMMISSIONER CLARK: Right.
 12 WITNESS TAYLOR: Ah, yikes.
 13 COMMISSIONER CLARK: It seems like to me if you
 14 did that then they would be more willing to package things
 15 that would be attractive to those people who normally only
 16 take basic local exchange service.
 17 WITNESS TAYLOR: Well, let's see. They can
 18 provide any service they want, but they also must provide
 19 basic local exchange and only that for \$15 or whatever, if
 20 they are going to provide any local services?
 21 COMMISSIONER CLARK: In the wire center.
 22 WITNESS TAYLOR: Okay. Then they are in exactly
 23 the same position, it seems to me, as the ILEC is.
 24 COMMISSIONER CLARK: Right.
 25 WITNESS TAYLOR: That is whenever anyone knocks

1 skimming, it sounds pejorative, but really that is the way
 2 even competitive, fair, wonderful markets we would like to
 3 emulate work.
 4 COMMISSIONER CLARK: But that is fair as long as
 5 all the competitors are on equal footing; it's not fair when
 6 they are not.
 7 WITNESS TAYLOR: That's correct.
 8 COMMISSIONER CLARK: So one way to put them on an
 9 equal footing is to require them to serve everybody at least
 10 basic local exchange service at the price of the incumbent
 11 ILEC.
 12 WITNESS TAYLOR: Yes, and that's almost on a
 13 level playing field, except not quite, because you still --
 14 somebody, whether it's the ILEC or somebody else has to
 15 provide, be the provider of last resort, if you like.
 16 Someone has to provide service there.
 17 COMMISSIONER CLARK: There will be several
 18 providers of last resort in that area. As long as you enter
 19 that area you become a provider of last resort.
 20 WITNESS TAYLOR: Well, except everybody but one
 21 has a choice of whether entering -- I'm thinking of that as
 22 a wire center, and everybody but one has the choice of
 23 providing local service under your terms.
 24 COMMISSIONER GARCIA: So BellSouth keeps making
 25 money. And, in fact, what was the comparison --

1968

1 COMMISSIONER CLARK: They don't lose the high
2 volume customers, they keep them.
3 COMMISSIONER GARCIA: They keep everybody.
4 WITNESS TAYLOR: No. Let's see, they keep local
5 exchange service. If no one else wants to provide it.
6 Though if you do have the universal service fund -- well,
7 no, I'm sorry. They do keep the local exchange customer,
8 but why is there -- why are they on a level playing field
9 vis-a-vis toll and ancillary services, unless the universal
10 service fund is keeping them whole for providing the loop?
11 Once you have done that, then I think I agree. The only
12 part that worries me is that one carrier has a choice of
13 whether to serve at all in the wire center and others don't.
14 That is an asymmetry that I'm not sure where --
15 COMMISSIONER GARCIA: The concept that was -- I
16 think was part of GTE's witness I thought was interesting.
17 His concept was sort of a gun to your head, participate or
18 die. Well, here are the rules in Florida. If you want to
19 be in Florida, if you want to do business in this highly
20 profitable market, then you become a carrier of last resort.
21 Whoever wants service gets it. And so you are able to
22 average it out. Clearly you are going to come into the
23 market in cream skimming and then you are going to have --
24 you are across the street from Bill Gates, you see the big
25 AT&T tower that he has got, the building, the lights, the

1970

1 that's where we are going.
2 WITNESS TAYLOR: Well, it's the direction we are
3 moving. We are not going to get up and change, but we are
4 going to move in a new direction.
5 COMMISSIONER GARCIA: Exactly. So, as we are
6 heading down this course, a course that is long, because we
7 have all talked about competition, beginning with myself,
8 you know, when I make this speech, competition is coming,
9 it's there, you know, yes, it's there somewhere. It's not
10 here yet. It's there for Bill Gates, it's there for the
11 high end customers and the business side, but the truth is
12 it's going to take awhile, a very long while. And, you
13 know, when I hear the GTE witness, that he said he can get
14 us going with half a billion dollars, you know, I want to
15 get up and join the company. And instead of thinking we get
16 there eventually, and by getting there eventually I know we
17 are trying to fix the bigger picture, and I understand --
18 and obviously you're talking to us way up here and you are
19 talking about theories and stuff. But I think Commissioner
20 Clark is making the point, and I think to some degree
21 Commissioner Johnson, it takes awhile. I mean, you know,
22 Judge Greene's decision was quite awhile ago, and I think we
23 would probably talk about real competition having occurred
24 in the last, what, four to five years in that market? I
25 mean, really good aggressive competition where you have all

1969

1 whole system. You say, hey, Tracy, give me one of those,
2 and he has got to give it to you.
3 WITNESS TAYLOR: Right. Well, what's wrong with
4 that, if anything, and I'm just shooting from the hip,
5 because we all are.
6 COMMISSIONER GARCIA: We all are, I think at this
7 stage.
8 WITNESS TAYLOR: In a sense, what you have -- one
9 thing that you have done is you have dropped a rule into
10 this competitive market that you want to be competitive,
11 which pertains to everybody equally, so I can't say that it
12 is anticompetitive or twisting the market. But it does slow
13 the day or whatever on which the market takes over all by
14 itself. That is --
15 COMMISSIONER GARCIA: Does it? It allows us to
16 continue to some degree to bring price to cost in a slow
17 manner, but at the same time it keeps those -- clearly, I
18 don't think you would argue that we have done a bad job as a
19 country, but particularly in Florida we haven't done a bad
20 job. You know, I think we have got good telecommunication
21 service at reasonable prices and we have got some
22 competition in certain areas. So it's not like there is a
23 cancer on this thing and we have got to remove it. It's
24 working. But as a nation we have made a paradigm shift we
25 think competition is good, whether it's good for us or not.

1971

1 sorts of --
2 WITNESS TAYLOR: All sorts of people calling you
3 at night to switch?
4 COMMISSIONER GARCIA: Harass you for that margin,
5 which is exactly what we want. And I think we both want the
6 same thing. But the problem is getting there in a flash
7 out.
8 WITNESS TAYLOR: No. I mean, you will get there
9 in incremental steps. And it's not just a thing the
10 bureaucracies do; sensible people do that, too. The system
11 works and we don't have to change it overnight. You need a
12 path which can lead you incrementally to an improvement. A
13 universal service fund is useful in that sense, because it
14 doesn't have to be, it doesn't have to solve everything
15 overnight. You can take little steps in that direction if
16 you are worried about it. You also have other policies.
17 COMMISSIONER GARCIA: Doesn't that worry you,
18 though? The concept of -- and let me tell you how I
19 perceive it, and then correct me where I'm wrong. I see
20 Mr. Hatch and all the long distance guys there, they are
21 standing there and waiting for us, for the FCC, for the
22 courts that are deciding to put some finality into this
23 game, because they are smart players, they are not going to
24 -- you know, AT&T, for example, has tried to provide local
25 service in Atlanta. They are dying. They are losing their

1972

1 shirt. So it's a difficult market because you don't know
2 what the margins are. So everybody is standing by and
3 watching this happen. And this Commission, and I think in a
4 good sense, this Commission is trying to stay ahead of the
5 curve, as I think it generally tries to do, and we have been
6 asked by the legislature to look at rebalancing. And so we
7 are looking at rebalancing to some degree. We are looking
8 at what has to be done. Let me not say rebalancing, because
9 that might not be the right word in the statute.

10 WITNESS TAYLOR: I love that word.

11 COMMISSIONER GARCIA: It may make my confirmation
12 in a few years a lot harder, but we are looking at how to
13 bring rates to a way that the loop pays for itself, and
14 these competitors can enter with an understandable risk.

15 WITNESS TAYLOR: Right.

16 COMMISSIONER GARCIA: With that said, all of
17 those things, all of those assumptions, I think, have to
18 change as we get there through time. So, maybe I've
19 answered my own question, but I think it is through little
20 steps, but doesn't it worry you that those little steps may
21 create an inequity that allows someone to step in and really
22 take advantage of the system?

23 WITNESS TAYLOR: Not so much that I would
24 hesitate to take the steps. I think knowing where you are
25 going, and my example in this would be the FCC back in 1984,

1974

1 efficiencies, because AT&T decides it doesn't need the local
2 loop to provide service, or --

3 WITNESS TAYLOR: Sure. All of that and one more
4 thing besides. I mean, suppose technology changed or the
5 world shifted so that the half billion dollars or whatever
6 was just obscenely too much. That a universal service fund
7 of that size, and thus a tax of a nickel a minute, or a
8 nickel -- or 5 percent of revenue or whatever was just
9 really not necessary anymore. What would happen? What is
10 the consequences of that?

11 COMMISSIONER GARCIA: But it wasn't more than --

12 WITNESS TAYLOR: Well, whatever. I'm making it
13 up.

14 COMMISSIONER GARCIA: -- the tax was going to be
15 like half a billion dollars they were talking about, it was
16 about 33 percent in tax or 40 percent tax.

17 WITNESS TAYLOR: All right, 40 percent. What
18 happens if that is the circumstance and it's no longer
19 necessary. Is that the equivalent of, you know, the U.S.
20 Government taxing us that amount and the money just going to
21 Washington and disappearing, and it's a dead weight on the
22 market? The answer is no. The answer is no, because if the
23 fund does end up by being too large, either because you
24 screw up or because circumstances change, what happens? If
25 this is a fund where the carrier who gets the customer gets

1973

1 recognizing that they couldn't keep carrier access charges
2 at 17 cents a minute, took little steps. They brought in
3 the subscriber line charge at sort of 50 cents a pop over a
4 course of four or five years. They knew what the end
5 product was, they had a view of what rate rebalancing was
6 required, and they also had a view of sort of what pace they
7 could do it, at which they could do it without Congress
8 getting angry.

9 COMMISSIONER GARCIA: You would agree, though,
10 that all of these numbers that we are looking at are going
11 to dramatically shift as we move forward? In other words,
12 the half a billion dollars that GTE says it needs, and I'm
13 using them as an example simply because it's where we ended
14 up yesterday, and so I was thinking about it a long while.

15 The half a billion dollars where we begin today, if we make
16 some incremental step at getting there, so that we can open
17 up the market for AT&T, and MCI, and all the other players
18 that want to play, and perhaps open it up for GTE to come
19 into BellSouth and BellSouth to come into GTE.

20 WITNESS TAYLOR: Absolutely.

21 COMMISSIONER GARCIA: You would agree with me,
22 though, that even if this Commission or the legislature said
23 we need to rebalance, that half a billion dollars is by its
24 very nature not a static number. That that will change
25 because of technology, because of advances, because of

1975

1 to draw from the fund, and people are trying to supply no
2 end of services to these customers, that extra 33 percent is
3 going to get competed away? And your --

4 COMMISSIONER GARCIA: But it will still be there
5 artificially.

6 WITNESS TAYLOR: Oh, it will be there
7 artificially, yes. But what you will have is --

8 COMMISSIONER GARCIA: It will be going out of
9 someone's pocket, but it will still be there as an incentive,
10 as a balancer, as a --

11 WITNESS TAYLOR: It will be a line item on the
12 bill. But what is going to happen is that prices that
13 customers pay for long distance and for ancillary services
14 and all of that are going to be competed down by just the
15 amount that the tax pulls it up. I mean, it's stupid, but
16 it's not venal.

17 COMMISSIONER GARCIA: Thank you.

18 CHAIRMAN JOHNSON: Any other questions,
19 Commissioners? Redirect?

20 MR. KEYSER: No redirect. We would move Exhibit
21 68 to be inserted into the record.

22 CHAIRMAN JOHNSON: Show that admitted.
23 (Exhibit 68 admitted into the record.)

24 CHAIRMAN JOHNSON: Thank you, Mr. Taylor. You
25 are excused.

1 WITNESS TAYLOR: Thank you.

2 MR. WILLIAMS: I believe the next two witnesses

3 will be the Hatfield panel, and I would like to call Frank

4 Murphy and Tim Tardiff to the stand, please.

5 Your Honor, while Mr. Murphy is still standing

6 up, I do not think he has been sworn yet.

7 (Witness sworn.)

8 CHAIRMAN JOHNSON: You may be seated.

9 Thereupon,

10 FRANCIS J. MURPHY and TIMOTHY J. TARDIFF

11 were called as a panel of witnesses on behalf of GTEFL and,

12 having been duly sworn, testified as follows:

13 DIRECT EXAMINATION

14 BY MR. WILLIAMS:

15 Q Let me start with Mr. Tardiff. Doctor Tardiff,

16 excuse me. Doctor Tardiff, you have filed -- well, first of

17 all, can you state your name and business address, please?

18 A (Witness Tardiff) My name is Timothy J. Tardiff,

19 T-A-R-D-I-F-F.

20 MR. HATCH: Could we get him to move one seat

21 down? He is really lost over there.

22 A Any name is Timothy J. Tardiff, that is

23 T-A-R-D-I-F-F. I am with National Economic Research

24 Associates, 1 Main Street, Cambridge, Massachusetts 02142.

25 Q Doctor Tardiff, you have filed rebuttal testimony

1 A Yes, he is. He works in one of our offices.

2 Q And to the extent there are any questions about

3 that affidavit, are you prepared to deal with them?

4 A Yes.

5 Q Thank you. Mr. Murphy, you too have filed

6 rebuttal testimony in this proceeding, is that right?

7 A (Witness Murphy) Yes, it is.

8 Q And you are the author, along with Doctor

9 Tardiff, of this analysis of the Hatfield model?

10 A That's correct.

11 Q And you have some corrections to your testimony

12 to that analysis, is that correct?

13 A Yes, that's correct.

14 Q Could you just tell us what they are.

15 A Yes. I have two corrections. The first one

16 affects my rebuttal testimony, as well as Exhibit TJT-2.

17 The rebuttal testimony on Page 5, Lines 1 and 2, is

18 affected. The Exhibit TJT-2, Pages 65, 97, and 113 of 347

19 are affected. The pages referenced above discuss the tandem

20 power investment in the HAI model. The referenced pages

21 state that there is no power investment for tandems in the

22 model. Recent analysis has been performed that indicates

23 the HAI model does, in fact, include power investment, but

24 this power is drastically understated. The model contains a

25 mere \$12,000 in power investment per tandem office. CHAI

1 in this case?

2 A Yes, sir.

3 Q And does that rebuttal testimony include an

4 analysis of the Hatfield model?

5 A Yes, it does.

6 Q And attached to that analysis are a number of

7 attachments, is that correct?

8 A That's correct.

9 Q I believe 13 in all. And that analysis of the

10 Hatfield paper has been authored by yourself and Mr. Murphy,

11 as well as others, is that right?

12 A That's correct.

13 Q I understand that Mr. Murphy has a few changes to

14 his testimony to the analysis, which we will get to in a

15 minute. Do you have any changes to your testimony?

16 A No, I don't.

17 Q One other thing, Doctor Tardiff. Are you aware

18 of a late-filed affidavit filed with the Commission on

19 October 13th, and sworn to by Gino W. Kim (phonetic)?

20 A Yes, I am aware of that.

21 Q And this relates to Mr. Kim's visit last week to

22 PHR?

23 A Yes, that's what the statement was about.

24 Q And does Mr. Kim report to you, is he one of the

25 near economists?

1 Model Version 5.0a, File R5.0a, underscore switching.

2 underscore 10.XLS, Cell D4. This value is significantly

3 lower than the power investment included in AT&T's

4 collocation and transport incremental cost models.

5 Q Do you have any other changes to your testimony,

6 Mr. Murphy?

7 A Yes, there is one other correction. The cluster

8 design criteria in my rebuttal testimony, Page 9, Line 7

9 through 12. The question on Lines 7 through 12 should read

10 Section 5.5.1 of the HAI model documentation attached to Mr.

11 Woods' direct testimony as Exhibit DJW-2 states that the

12 cluster design criteria used by the HAI model constrains the

13 right angle distance from the cluster centroid to 18,000

14 feet, and the line size to 1800 lines.

15 Q Thank you, Mr. Murphy. Now, in connection with

16 your joint preparation of the analysis of the Hatfield

17 model, am I correct in understanding that you and Doctor

18 Tardiff have attempted to split up the areas of

19 responsibility?

20 A Yes, that's correct. There is a modified table

21 of contents that has been provided. That table of contents

22 designates with a D those areas that Doctor Tardiff will be

23 responding to, and an M those areas that I will be

24 responding to. And in a few cases we can jointly respond.

25 Those are designated as T/M. That is Exhibit 1 of -- that

1980

1 is Exhibit TJT-1.

2 Q Thank you, Mr. Murphy. Could you now briefly
3 summarize your testimony?

4 A Yes, I will. I have been involved in the review
5 of the Hatfield model since approximately early 1997. And
6 what I have found is a systematic bias in the model designed
7 to produce low cost. This bias affects engineering
8 decisions that have been made, input decisions that have
9 been made, and custom location methodologies.

10 Some examples of the engineering flaws are drop
11 links are understated. They won't reach the houses that
12 they are supposed to be serving. Loop links are
13 insufficient to connect customers to their serving wire
14 center. The model uses obsolete technology. Industry
15 standard switch engineering practices are ignored. Power
16 investment is understated for both tandem and end office
17 switches, and it's nonexistent for circuit equipment.
18 Operation support systems are missing. Systems such as test
19 systems for both special access type services and parts type
20 services. Interoffice trunking requirements are drastically
21 understated.

22 I think one issue that has become obvious
23 throughout these hearings is that there is a fundamental
24 question between the HAI and the BCM model with respect to
25 the number and sizes of DLC remote terminals that the two

1982

1 do that, and you have future demand in those rural areas,
2 for example, for advanced services, then accommodating that
3 demand is a simple matter of changing out the electronics on
4 either end of the fiber-optic cable. Whereas, if you have
5 T-1 on copper out there, you've got to go string more cable
6 along the telephone poles or bury it in the ground. And
7 what's more, the electronics that you take off and replace
8 you can use elsewhere in your network. The standard of
9 service would be much higher.

10 An additional reason that the Hatfield model
11 deploys too few and too large DLC units is because they do
12 such a poor job in the MST analysis. If that MST problem
13 were corrected, then it's obvious that the constraint on the
14 carrier serving area, whether it be a 12,000 or an 18,000
15 foot constraint, which ultimately this Commission will
16 decide, then that constraint will come into play far more
17 often and more DLCs, and smaller DLCs will be placed.

18 Another reason that the Hatfield model doesn't
19 build enough DLC units is because it builds -- is because it
20 fails to build to housing units. Now, I heard Mr. Wood
21 earlier trying to lead this Commission to believe that
22 vacant housing unit are things like dilapidated buildings
23 and barns. I would suggest to you that that is not the
24 case. Census Bureau data in this country suggest that at
25 any given point in time just over 10 percent of the living

1981

1 models employ. I think one question that you could
2 legitimately ask is whether the Hatfield model deploys too
3 few and too large DLC remote terminals, or conversely, does
4 the BCM model deploy too many and too small DLC remote terminals.
5 I would submit to you that the BCM model is the more
6 correct of the two.

7 The few and large DLC terminals that are being
8 deployed in the Hatfield model are inappropriate as a
9 forward-looking architecture for a number of reasons. The
10 first reason is the HAI's failure to adhere to the 12,000
11 foot customer serving area standard. The second reason is
12 that the Hatfield model deploys outdated T-1 copper based
13 DLC. That is a 25 year old technology that essentially
14 nobody in this country is deploying at this time.

15 Recently, comments were filed by the Rural
16 Utility Services with the FCC. In a filing made on
17 September 24th, 1997, on Page 3, the Rural Utility Services
18 states, "More important, no one is installing new copper T-1
19 systems in rural America today except in a few cases on
20 existing plant." Traditional T-1 copper based subscriber
21 carrier is not a modern technology, and yet those rural
22 areas are precisely where the Hatfield model is deploying
23 T-1 on copper.

24 A more appropriate architecture would be to
25 deploy fiber based DLC with a small remote terminal. If you

1983

1 units are going to be vacant. We have an active real estate
2 market in this country, and I would think Florida in
3 particular would have significant turnover and significant
4 seasonal vacancies.

5 I know lot of people from the northeast spend
6 their summers in Florida. When those folks go back to the
7 -- excuse their summers -- their winters in Florida. When
8 those folks go back to the northeast, the housing units are
9 vacant. The telephone lines are turned off. When they come
10 down again in the fall, they want service. With the
11 Hatfield network, there would be no facilities available
12 there to turn that service on. You would have to go out and
13 build it.

14 I also heard a discussion that some of the
15 documents I have in front of me, the outside plant systems
16 handbook originally --

17 MR. NELSON: Commissioner Johnson, I'm going to
18 have to object. This is going beyond the scope of his
19 prefiled testimony. He is now doing live rebuttal to things
20 he has heard in the hearing room over the past couple of
21 days, and it is way beyond the scope of his prefiled
22 testimony.

23 MR. WILLIAMS: Your Honor, I think it's totally
24 fair. A number of other witnesses have addressed other
25 issues that have come up. There are obviously things that

1 this Commission should hear about if you listen to the
2 testimony. I think it's helpful to hear what Mr. Murphy has
3 to say about these issues, and it may be that it's going a
4 little bit beyond, and I won't disagree with that, but I
5 think it is an issue that has got to be resolved, and I
6 don't see a better way to do it.

7 CHAIRMAN JOHNSON: You want to stay within the
8 four corners of your testimony that was filed. And to the
9 extent that questions come out and things --

10 MR. WILLIAMS: Oh, let me -- it is certainly
11 within the four corners of his testimony.

12 CHAIRMAN JOHNSON: His prefiled testimony? He is
13 supposed to be summarizing.

14 MR. WILLIAMS: Yes, and absolutely. And the
15 point is whether or not we should be guided by generally
16 accepted engineering standards and what those are. He may
17 have prefaced it in view of testimony of other witnesses,
18 but a substantial part of Mr. Murphy's testimony, he is an
19 engineer, and he is here to testify about what are generally
20 accepted engineering and design practices in the industry,
21 which is precisely the issue that this Commission has to
22 resolve.

23 CHAIRMAN JOHNSON: Let me just caution the
24 witness that you need to -- this is supposed to be a summary
25 of your testimony, and it is helpful for the Commissioners

1 from a document that I don't believe is attached to his
2 testimony. I don't believe he has quoted from it in his
3 testimony. He is beyond the scope, again. I mean, if he
4 wanted to put this book in there was a time to do it and the
5 time is not at 4:15 on the third day of the hearing.

6 MR. WILLIAMS: Well, let me just note for the
7 record that that is in his testimony. One of our bases of
8 criticisms of the Hatfield model is the number of pairs that
9 it builds to the households, and one of the things that we
10 cite to in Mr. Murphy's testimony is the AT&T Outside Plant
11 Engineering Handbook. It is right in his testimony. And I
12 think that's all he is talking about right now.

13 MR. WILSON: I think there is a difference
14 between citing to it and quoting from it.

15 MR. WILLIAMS: Well, if this helps at all, we
16 quote in his testimony, in the analysis. But at any rate.

17 CHAIRMAN JOHNSON: It is late, sir, and you do
18 need to summarize the testimony that was filed.

19 WITNESS MURPHY: I'll be brief, and close in that
20 case. The final document, the Bellcore Notes on the
21 Network, which I also cite in my testimony. This is
22 Issue 3, dated December of 1997. Also a current document.
23 And it could not be more clear at Page 7-71, that the
24 evolution to a network that can readily provide digital
25 services via loop facilities lead to the carrier serving

1 to have that summary, but stay within the boundaries of your
2 prefiled.

3 WITNESS MURPHY: I will do that.

4 A (Witness Murphy) I have before me two documents
5 that I consider to be generally accepted engineering
6 practices. The first one is the Outside Plant Engineering
7 Handbook published by Lucent Technologies. The date on the
8 cover of this book is October of 1996. I purchased this
9 book at approximately this time last year. In preparation
10 for these hearings, we contacted the folks at Lucent
11 Technologies to try to assure ourselves that we had the most
12 current version of the book. Their statements to us were
13 that this was indeed the latest version of the book, and
14 that they do indeed keep it up. And that if I wanted to pay
15 a fee, I could get on a mailing list and they would send me
16 updates as they are produced. And I would like to read for
17 you an excerpt from that guideline. At Page D-11, it
18 describes interfaced cable sizing guidelines, which is the
19 guideline that's used for distribution design. Interface
20 secondary cables are sized for the ultimate pair
21 requirements. Accepted standards for pair allocations are
22 as follows: Residential, two pairs per living unit. There
23 are occasions when fewer than or more than two pairs per
24 living unit are the optimum choice.

25 MR. WILSON: Commissioner Johnson, he is reading

1 area concept.

2 It goes on and describes that as limiting the
3 copper loop distance beyond DLCs to 12,000 feet. And it
4 clearly is presented in this publication as superseding the
5 revised resistance design standard that is the very standard
6 that the Hatfield people use and cite in the NIPS (phonetic)
7 document as justification for an 18,000 foot loop. I will
8 close with that.

9 BY MR. WILLIAMS:

10 Q Thank you, Mr. Murphy. One final thing. I
11 neglected to ask you to provide your business affiliation
12 and address. You wouldn't be from Boston, would you?

13 A (Witness Murphy) That's correct. My business
14 address is 5 Cabot Place, Suite Number 3, Stoughton,
15 S-T-O-U-G-H-T-O-W, Massachusetts, 02072.

16 Q Thank you, Mr. Murphy. And, Doctor Tardiff, do
17 you have a very brief summary of your testimony?

18 A (Witness Tardiff) Yes, I do. Good evening,
19 Commissioners. It's nice to be in Florida, even in the
20 evening. My testimony demonstrates that the HAI or Hatfield
21 model does not produce valid costs for GTE or any other
22 Florida local exchange carrier. And as a result it should
23 not be the basis for sizing the universal service fund or
24 any other pricing decision that involves costs.

25 Rather than represent economic costs, the

1988

1 Hatfield model depicts a fictitious firm with cost levels
 2 that cannot be achieved by a real firm providing local
 3 service. In so doing, it violates both the economic
 4 definition and the FCC's definition of what a long-run study
 5 does. A long-run study uses current technology at current
 6 prices. In contrast, the Hatfield model uses speculative
 7 technology at speculative future prices. Examples of
 8 speculative future prices are the level of sharing. The
 9 Hatfield proponents will tell you that LSCs do not share at
 10 that level now, but they may sometime in the future. And
 11 the problem with using speculative prices that may or may
 12 not come true in the future is that no firm can recover its
 13 costs if it is basing its prices on conditions that may
 14 occur in the future. What will happen is it will lose money
 15 until that time, if and when it meets the conditions assumed
 16 by those future conditions.

17 Now, this brings me to the question of what is
 18 the purpose of a cost study in this proceeding and in other
 19 proceedings. A proper cost model would produce costs and
 20 prices for an efficient firm. In contrast, using costs and
 21 prices that are artificially low would cause several
 22 problems to competition. First of all, as I just alluded
 23 to, the firm supplying the services that are price based on
 24 improperly low costs would lose money and they won't be able
 25 to make it up in the volume. Secondly, the buyers of

1990

1 compare the results of a cost study or a cost estimate
 2 against valid and known external information. And my
 3 testimony in our report offers at least two forms of
 4 validation. One is the comparison of the cost levels
 5 produced by the Hatfield model against current costs as
 6 reflected in AMHS data.

7 The Hatfield model produces less than half of the
 8 expenses and investments GTE currently incurs. What that
 9 means is that if you believe the Hatfield model, the firms
 10 serving GTE's territory could charge less than half than GTE
 11 does now and still do okay. That to me is an inconceivable
 12 outcome. GTE or any other local exchange carrier in Florida
 13 could not be this inefficient given the regulatory oversight
 14 and the cost cutting incentives that it faces today.

15 The other area of validation we looked at was the
 16 design of distribution areas. And this got into this whole
 17 business about minimum spanning tree or MST analysis. I'm
 18 not going to go into any great detail now, we have heard a
 19 lot. But our conclusions reinforce what we saw in other
 20 areas, that the Hatfield model produces too little outside
 21 plant in low density areas. And in interpreting the MST
 22 analysis, I would just like to add the thought that the MST
 23 is the absolute minimum level that needs to be provided. In
 24 the real world there are factors that would increase that
 25 amount by a fair amount. For example, if you take into

1989

1 certain of these services, for example, the buyers of
 2 unbundled network elements at low prices would certainly
 3 benefit. AT&T and MCI would like to have access prices as
 4 low as possible. But as Commissioner Garcia noted
 5 yesterday, competition from new facilities-based entrants
 6 would be discouraged in the process. If a firm can buy
 7 stuff from an incumbent and compete on that basis, they are
 8 discouraged from building their own facilities. And
 9 interestingly enough, this type of a situation actually
 10 increases the amount of cross-subsidy in the system, and
 11 this time it's cross-subsidies to these buyers of
 12 artificially low services. And that in part explains the
 13 difference between Mr. Seaman's chart between the difference
 14 the costs and prices of local service versus the amount of
 15 implicit subsidy.

16 And finally and most importantly, basing a
 17 pricing decision on artificially low costs in the case of
 18 universal service will result in an inadequate fund. And
 19 that inadequate fund will delay the onset of local
 20 competition outside of low cost areas, in particular
 21 residential customers outside low cost areas will be less
 22 likely to experience the benefits of competition.

23 Now do we know the Hatfield model produces low
 24 costs? I think one of the major themes of my testimony is
 25 the issue of validation. The notion that you have to

1991

1 account that roads and streets are constructed at right
 2 angles, that adds at least about 30 percent more to what
 3 a straight distance would provide. And then you add obstacles
 4 in there, barriers and the like, and you have added even
 5 more. So the fact that the model falls short in these low
 6 density areas on an MST standard suggest that it's even
 7 further when you look at realistic benchmarks.

8 The other thing that I mention, which I think is
 9 kind of interesting in this regard is that in these low
 10 density areas the average lot size is large. That among
 11 other things suggests that if you implement the suggestion
 12 yesterday that one way to overcome the lack of distribution
 13 facilities is to extend the cable out to the edge of the
 14 serving area by adding one lot length, you are going to add
 15 quite a bit more area and increase the cost. I report in my
 16 testimony that the average lot size over all clusters is 15
 17 acres. That is a lot that is 570 feet on one dimension and
 18 twice as long on the other, so that would encompass a lot of
 19 area if you extended the routes out to the edge of the
 20 serving areas.

21 Let me just close by touching on another theme in
 22 the paper, and that is we discuss the evolution of the
 23 Hatfield model from its initial incarnation Version 2.2.2
 24 that appeared in the arbitration in this state, to Version
 25 3.0, and what we saw is that 2.2.2 by this Commission's

1 judgment produced costs that were too low for GTE. Version
2 5.0 produced loop costs that are even lower. And in a sense
3 this is a fairly puzzling result, because if you look at one
4 of the main criticisms of Version 2.2.2, that was that its
5 design of distribution area was totally inadequate, and why
6 was that? Well, 2.2.2 des^g and distribution areas that
7 placed two few cables, and these cables were large in size.
8 And as a consequence it had way too few route miles, and
9 route miles determine things like need for telephone poles,
10 conduits, the very types of support structure that are
11 needed to carry the wires where they need to go.

12 Hatfield 5.0 has substantially more route miles
13 and yet the costs have not increased. In fact, they appear
14 to have decreased. Why is that? Well, if you look at the
15 inputs to the model, the input prices for structures, poles,
16 conduit, and the like have decreased on average enough to
17 basically offset the increase in route miles. Another
18 example that may explain the lower costs is that cable
19 prices in larger sizes have decreased, as well. What is
20 interesting about this is that those structures and cable
21 prices are very basic things that are based on -- input
22 prices for which are based on engineering judgment that
23 appears to have changed quite drastically over the year or
24 two since the various versions of the model, and that
25 suggests something about the process that the inputs were

1 CHAIRMAN JOHNSON: Now, the exhibits we need to
2 identify those?

3 MR. WILLIAMS: Yes. Exhibit Number 1 is simply
4 the table of contents that Mr. Murphy indicated is modified
5 to provide an understanding of which witness was most
6 qualified to testify to which issue. Exhibit 2 is the big
7 one, 347 pages, and it is entitled an analysis of the KAI
8 Model Release 5.0a.

9 CHAIRMAN JOHNSON: We will identify the table of
10 contents as 69, and the analysis of KAI-50a as 70.

11 MR. WILLIAMS: Thank you. I also move the
12 admission of Mr. Murphy's testimony, if that is necessary.
13 And with that I would tender the witnesses for cross
14 examination.

15 CHAIRMAN JOHNSON: The testimony will be
16 inserted. Starting with you, Mr. Melson.

17 CROSS EXAMINATION

18 BY MR. MELSON:

19 Q Good evening, gentlemen. I'm Rick Melson
20 representing MCI.

21 Doctor Tardiff, do I understand that in your
22 professional opinion proxy cost models are not the
23 appropriate way to determine costs for purposes of universal
24 service funding?

25 A (Witness Tardiff) Could you cite something in my

1 developed. That is the process seems to be one in which
2 certain low values have been chosen, certain sources have
3 been used in a selective way, and we get that in our
4 testimony.

5 For all of these reasons, that is that the model
6 produces unrealistic results and does not meet test
7 validation, we have concluded that it does not form the
8 proper basis for establishing costs and prices for
9 telecommunications services in the State of Florida. Thank
10 you.

11 MR. WILLIAMS: Thank you, Doctor Tardiff. Your
12 Honor, I would move the admission of Doctor Tardiff's
13 rebuttal testimony, which includes two exhibits, the second
14 exhibit having 13 attachments, and I would also move the
15 admission of Mr. Murphy's rebuttal testimony.

16 CHAIRMAN JOHNSON: The testimony will be inserted
17 into the record.

18
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1 testimony?

2 Q Well, is that your professional opinion that
3 proxy cost models are not the appropriate way to determine
4 costs for universal service funding?

5 A I don't believe that is my professional opinion.
6 My professional opinion is that you need a model that
7 reasonably replicates the costs that the provider of
8 universal service expect to incur. And if the proxy comes
9 reasonably close to that standard, then it provides a
10 reasonable basis for determining universal service support
11 levels.

12 Q Could you turn, please, to Page 7 of your
13 testimony at Lines 5 through 7, and tell me what that
14 statement means if it does not mean that proxy cost models
15 are inappropriate?

16 A Which page is this?

17 Q Page 7.

18 A Lines 5 through 7?

19 Q Yes, sir. "However, I believe that company
20 specific models rather than proxy cost models are the
21 appropriate standards to use for costing USF and UNEs."

22 A I'm sorry, could you direct me there again.

23 Q I'm sorry. Page 7 of your testimony, not the
24 attachment. Lines 5 through 7.

25 A Yes. What I meant there is that as I prefaced my

1 earlier answer that what we were trying to do is to
2 replicate the costs that this company will actually provide
3 and actually experience in providing service. And what that
4 sentence says is that a company specific model will do a
5 better job than a proxy model. But to the extent that's not
6 available and a proxy model forms a reasonable basis, a
7 practical tool is better than no tool at all in that
8 situation.

9 Q And of the two proxy models that have been
10 present in this proceeding, the HAI and BCPM, do I
11 understand that you prefer the BCPM because its results are
12 closer to GTE's actual numbers than the results of the
13 Hatfield model?

14 A That is one reason. Other reasons have to do
15 with specific design issues, but this is the issue of
16 external validity and clearly the BCPM does a better job on
17 the external validity tests that I'm proposing on this same
18 page than does the Hatfield model.

19 Q And when you say that BCPM better predicts or is
20 closer to GTE's historic costs than Hatfield, do you mean
21 historic costs as reported on ARMS, is that correct?

22 A Yes. This is a comparison to common cost
23 categories, ARMS versus model output.

24 Q That tells you nothing about which is a better
25 predictor of forward-looking costs for building an efficient

1 Q Let me change subjects just a minute. Is it your
2 testimony that the HAI model provides less distribution
3 cable in the majority of clusters than is physically
4 necessary to reach all customers?

5 A I think you're referring to something later on in
6 the testimony. Basically --

7 Q Doctor Tardiff, could you give me a yes or no and
8 then explain. Is that your testimony?

9 A That's what the testimony says, and I would like
10 to explain. That has been our finding when we have done
11 these studies in a number of different states. As we report
12 in this testimony here, the situation in Florida is that it
13 provides less cable than necessary in the majority of the
14 clusters in the lowest density area. And it's approximately
15 a majority in the lowest two density areas. If you define
16 all clusters then we report earlier that the shortfall is
17 not the majority in the State of Florida, it has been in
18 other states.

19 Q In fact, you report earlier that the shortfall is
20 11 percent of the clusters?

21 A Based on the study I described here, that's
22 correct.

23 Q All right. So --

24 A Overall. But, again, in the areas where it
25 matters the most it is a majority in the lowest one and it

1 network using a scorched node approach, is that correct?

2 A No, I disagree, I think it tells you a lot. The
3 basic premise that GTE and other companies are providing
4 service today, they have certain incentives to be efficient,
5 and, you know, like we have done in a lot of pricing
6 decisions, that forms a much better starting point than some
7 speculation that you can be twice as efficient. So I
8 disagree with the question. I think it's a very good basis
9 for comparing models.

10 Q And if you had your choice and did not use a
11 proxy cost model, what type of model would you use for
12 determining costs for USF purposes, if you weren't
13 constrained by the statute?

14 A Well, you know, it depends on the details of the
15 program. I mean, if one is just to determine the shortfall
16 in today's prices against costs, and there was a need to do
17 it on a forward-looking basis, as I said earlier, a company
18 specific cost model would be the best estimate of the size
19 of the fund. You get a complication as the program gets
20 more geographic specific, more geographic specific where you
21 want to target the particular areas, and there you might
22 have to come up with some kind of hybrid approach where you
23 size the fund based on a prediction from a model I
24 described, but distribute the funds maybe based on a proxy
25 model that tells you the relative costs in different areas.

1 approaches the majority in the summit of the two lowest
2 clusters.

3 Q Yes, sir. I was just trying to find out whether
4 you thought 11 percent was a majority or not?

5 A No, it's not a majority.

6 Q Mr. Murphy, at Page 7 of your testimony you
7 indicate around Line 20 that a forward-looking model should
8 account for the demand for advanced services that will rise
9 greatly in the near future. Do you see that?

10 A (Witness Murphy) Yes, I do.

11 Q Is it your understanding that the purpose of this
12 proceeding is to determine the cost of basic local service?

13 A That is my understanding of the proceeding, but
14 it's also my understanding that the FCC's requirements are
15 that the network that is envisioned to be deployed for those
16 purposes not be designed in a manner that will impede the
17 implementation of advanced services.

18 Q When you say it should account for the demand for
19 advanced services, what do you mean by advanced services?

20 A I am talking about services like ADSL/ISDN.

21 Q And is the network that is designed by the BCPM
22 model designed to be capable of providing ADSL/ISDN
23 services?

24 A Generally, yes.

25 Q To the extent that that model constructs a

1 network that is more costly than what is required to provide
2 simply basic local service, is the effect, would the effect
3 of using the results of that model to determine a universal
4 service fund be to oversize the f

5 A No, I don't believe so.

6 Q So that if basic local service -- and let me just
7 use some hypothetical numbers. If the cost of a BCPM
8 constructed network capable of providing advanced services
9 was \$35 per line and the cost of constructing a network that
10 would provide basic local services were \$30 a line, if you
11 were to use the \$35 a line amount as the basis for
12 determining the amount of universal service funding, it's
13 your testimony that would not overstate the amount required
14 to provide basic local services?

15 A Well, I think that it's important to remain
16 within the guidelines that the FCC has set, and that is that
17 the network that is modeled in order to provide universal
18 services should not impede the deployment of advanced
19 services. And that means to me that we should be sticking
20 with the generally accepted engineering practices and living
21 by the letter of what the FCC's guideline has stated with
22 that regard. If that happens to have a slightly, a slight
23 increase in cost, near term cost, I might add, then so be
24 it.

25 Q Do you see a difference between design in a

1 question in my mind is whether or not you have readied the
2 investments that you have deployed such that the network
3 will be compatible with the addition of additional equipment
4 such as ADSL modems. And the BCPM model does not have the
5 additional equipment that would be required, but it has
6 positioned the network such that it could accept and be
7 compatible with that additional equipment.

8 Q It also provides, in that case, distribution that
9 is capable of providing ADSL with the equipment of
10 electronics when a less costly network might provide
11 perfectly satisfactory voice grade service, accommodate
12 modems, and so forth, is that correct?

13 A Well, I don't agree that the Hatfield network --

14 Q I wasn't asking about Hatfield, sir.

15 A Please repeat your question.

16 Q Yes. Isn't it possible to construct a network
17 that is capable of providing basic local service, including
18 modem traffic, and yet have that network not be ready but
19 for the addition of electronics to provide ADSL?

20 A I guess I get a little disconnected when you
21 start to talk about acceptable modem traffic. It certainly
22 is possible to construct a network that will accommodate
23 reasonably satisfactory voice grade type services at a cost
24 that is less than constructing a network that will be
25 compatible with the deployment of advanced services. I have

1 network that today is capable of providing advanced services
2 to every customer versus a network that does not impede the
3 provision of those services in the future?

4 A Are you asking me whether or not the networks
5 that are in place today would impede advanced services?

6 Q No, sir. You have said that the network design
7 by a model in order to meet FCC criteria should not impede
8 the provision of advanced services. I believe you told me a
9 moment ago that the BCPM constructed network, in fact, is
10 capable of providing advanced services to essentially all
11 users, and I'm asking you is there a difference between a
12 network that presently is capable of providing advanced
13 services and a network design that may not be capable of
14 providing, but does not impede. Is that a difference or is
15 it not a difference?

16 A I'm not sure I fully understand your question,
17 but let me try to see if I understand where you are coming
18 from. I think you may have interpreted an earlier statement
19 that I made that the BCPM is capable of providing advanced
20 services. Did I mean by that that the network had in place
21 today all of the components necessary to provide advanced
22 services, and if that's what I implied in my answer, then
23 that was not what was intended. Because, yes, you would
24 have to add additional investment to the BCPM network in
25 order to actually provide those advanced services. The

1 difficulty with the modem issue, because as we heard in
2 earlier testimony, the bit rates at which modems can operate
3 are sensitive to the copper cable distance as well as analog
4 to digital conversions. And so when you start to throw
5 modems in there, you are beginning to border on whether or
6 not modem transmission is in and of itself an advanced
7 service. And in my mind it is.

8 Q All right. On Page 9 of your testimony you state
9 that when the EAI model is run for GTE in the State of
10 Florida, the results produce 254 clusters that have greater
11 than 1800 lines.

12 A I'm not quite with you yet.

13 Q I'm sorry, Page 9, Line 15.

14 A I'm with you.

15 Q Isn't it true that when EAI produces a cluster
16 that has greater than 1800 lines, it in effect splits the
17 cluster and serves it using multiple DLC remote terminals?

18 A I think that may be true, yes.

19 Q And is that essentially what BCPM does when it
20 has an area with greater than 999 lines, it then serves that
21 area with multiple DLCs?

22 A That is true. I think you need to be careful of
23 the placement of the multiple DLCs. If you are going to
24 deploy multiple DLCs, then I think it would be optimal to
25 deploy them to different areas within the cluster. And I

1 don't think Hatfield does that, although I don't know that
2 for sure. I believe BCPM does do that.

3 Q But you're not sure how Hatfield does it?

4 A I don't believe they deploy them at different
5 locations, but, no, I'm not sure.

6 Q On your direct at page 13, Line 17, I understand
7 that one of your criticisms of HAI is that it produces
8 average drop links of 63 feet for an area where a Bellcore
9 study indicated average drop links of 73 feet, is that --

10 A Yes, that's correct.

11 Q Isn't it true -- and that is roughly a 14 percent
12 shortage, is that correct? Will you accept that subject to
13 check?

14 A I will accept that math, yes, subject to check.

15 Q Isn't it true that BCPM produces an average drop
16 length in excess of 150 feet, which is more than twice what
17 is indicated by the Bellcore nationwide study?

18 A I have not conducted a sensitivity analysis of
19 the average drop length contained in BCPM.

20 Q So the answer is you don't know?

21 A That's correct.

22 Q If we could turn to Exhibit TJT-2, which is the
23 analysis of the HAI model release that I guess was
24 co-authored by your firm and Doctor Yardiff's?

25 A That's correct.

1 Q All right. On page -- and there are two sets of
2 page numbers. I'm in the text of the document. I'm
3 actually looking at the numbers on the bottom of the page.
4 Page 5 of the document, which I guess in the upper
5 right-hand corner is labeled Page 9 of 347.

6 A I'm there.

7 Q All right. Do you see about the third bullet, it
8 says the HAI model builds its network only to accommodate
9 working lines, consequently there is insufficient spare
10 capacity to allow the telephone company to respond quickly
11 to a request for new installations.

12 A Yes, I see that.

13 Q Is it your testimony that there is no spare
14 capacity built into the HAI produced network?

15 A No, that's not my testimony, at least not for all
16 components of the HAI network. In general, what spare
17 capacity is contained in the model is insufficient.

18 Specifically, the fiber-optic cables that are used in the
19 DLC are used at 100 percent fill, which is inappropriate.

20 The fact that the model fails to build to all housing units
21 is certainly problematic with respect to reasonable
22 installation intervals.

23 Q Do you know how much spare capacity BCPM builds,
24 for example, in distribution plant?

25 A I do not. Let me add here, though, that --

1 Q No, sir, you answered my question. Thank you.

2 MR. WILLIAMS: I think he was going to --

3 withdraw.

4 BY MR. NELSON:

5 Q Turn, if you would, to Page 18 of the exhibit.
6 Again, I'm looking at the numbers at the bottom of the page.
7 I guess it's Page 22 of 347. If I understand the second
8 sentence at the top of the page, it is a criticism of the
9 Hatfield model for assuming too much aerial distribution
10 cable in the two highest density zones, is that correct?

11 A That's correct.

12 Q And the assumption that is criticized is the
13 assumption of 60 percent and 85 percent in those two zones.
14 Is that correct?

15 A Yes.

16 Q Are you aware that GTE assumes 73.9 percent in
17 each of those two zones?

18 A Assumes that in what context? In the cost study
19 or --

20 Q Would you accept that GTE inputs into the BCPM an
21 aerial fraction of 73.9 percent for each of the two highest
22 density zones?

23 A I have not seen that. I can accept your
24 characterization of it. I do need to caution, however, that
25 it's very important in this area when talking about aerial

1 cable that we understand the definitions of aerial cable.
2 The Hatfield model actually is talking here about riser and
3 block cable. There is no structure associated with this
4 particular type of aerial cable within the Hatfield model.
5 In other words, you will find no telephone poles for aerial
6 cable in the two highest density zones. I'm not at all sure
7 what the definition of the aerial cable is that you're
8 referring to in whatever GTE filing you are mentioning.

9 Q So you don't know whether the GTE number of 73.9
10 percent is or is not comparable to the 60 and 85 percent in
11 the HAI?

12 A I don't know that.

13 Q If you would turn to Page 31 of that exhibit,
14 please. And the paragraph at the top of the page, if I
15 understand the substance of that, it is a criticism of HAI
16 for obtaining pricing information and then choosing as the
17 model's default value one of the lowest values rather than
18 an average or something else. Is that a fair summary?

19 A Yes, it is.

20 Q And the example you use is HAI using a cost of 60
21 percent for buried drop placement, is that correct?

22 A I don't see a percentage.

23 Q I'm sorry, 60 cents. It's getting late. I don't
24 even know what I said.

25 A I see that, yes.

1 Q All right. Do you know what buried drop
2 placement costs are used as inputs by any of the ILECs in
3 this proceeding into the BCPM model?
4 A I do not.
5 Q Would you accept subject to check that BellSouth
6 uses a placement cost of 58 cents, which is lower than the
7 HAI number?
8 A I will accept that.
9 Q Would you accept that the total installed cost
10 for buried drop placement for HAI is 74 cents, which is the
11 sum of the 60 cents here plus 14 cents of material cost?
12 A Yes, I will accept that.
13 Q And do you know whether GTE's installed cost is
14 greater or lower than that 74 cents?
15 A I don't know the answer to that question, but I
16 want to point out that the purpose of this paragraph is to
17 demonstrate the methodology that was used by the Hatfield
18 engineering team and the HAI team in general in selecting
19 its input values. The stated purpose of the survey was to
20 determine the average cost of the vendor (phonetic) survey
21 quotes. And that was intended to be used to validate
22 default inputs. It did not validate default inputs, and the
23 engineering team instead opted in most cases to go for the
24 absolute lowest value.
25 Q Well, to the extent the result of that process

1 A Yes, I do.
2 Q If you've got a model that builds enough plant to
3 serve 100 percent of the market, and builds an amount of
4 spare equivalent to what GTE has in its network today, how
5 could competition possibly require GTE to have more spare
6 capacity than that in the future?
7 A The spare capacity that they have today is to
8 accommodate a situation that that is probably much more
9 certain that they are going to face in the future. Spare
10 comes about not only because of growth but because of
11 uncertainty of growth and things like churn, geographic
12 patterns, and the like. And those are the kinds of things
13 you have to be prepared to accommodate, to be able to
14 respond flexibly to changes not only in the level of growth,
15 but where it happens, where it occurs. And I think that's
16 what the quote from the FCC in the long distance market
17 illustrates.
18 Q So you are telling me that if GTE has got
19 sufficient network and spare capacity today to handle growth
20 and to accommodate that growth perhaps in unexpected places,
21 that is in a competitive environment where presumably they
22 will have less than 100 percent market share, that they are
23 go to need even more spare capacity?
24 A That could well be, because, first of all, the
25 market could grow with competition, so less than 100 percent

1 was an input assumption that results in a higher total
2 installed cost than GTE Florida uses and a total installed
3 cost that is exactly equal to what Sprint uses, would you
4 agree that regardless of the process, the number isn't that
5 bad?
6 A In that particular case, yes. But if you examine
7 the inputs in total, you are going to find a significantly
8 downward bias.
9 Q And have you compared any of the other inputs to
10 the GTE inputs into BCPM for comparable equipment or
11 comparable inputs?
12 A No, I can't say that I have.
13 Q Doctor Yardiff, this next one is probably for
14 you. If you could turn to Page 45 of this exhibit. At the
15 top it's numbered Page 49 of 347.
16 A (Witness Yardiff) Right.
17 Q I take it that it's within the scope of your
18 testimony, the statement about two lines from the bottom of
19 the page, that in a competitive environment GTE may be
20 required to have more, not less spare capacity?
21 A Right.
22 Q And then I believe on the next page, about the
23 middle of the Page 46, you indicate that the introduction of
24 competition requires firms to be flexible enough to respond
25 to the vicissitudes of the market. Do you see that?

1 share of a bigger market could be more absolute volume for a
2 particular firm than 100 percent share of a smaller market.
3 But not only that, the pattern of growth will differ, and
4 the need to be flexible to take on customers as they come
5 along is likely to be a much bigger concern than it is when
6 you don't face that kind of competition.
7 MR. MELSON: That's all I've got. Thank you.
8 Commissioners.
9 CHAIRMAN JOHNSON: Mr. Hatch, do you have any?
10 MR. HATCH: No questions.
11 CHAIRMAN JOHNSON: Staff.
12 MR. COX: About two minutes worth.
13 CHAIRMAN JOHNSON: About how much?
14 MR. COX: About two minutes worth.
15 CHAIRMAN JOHNSON: Okay.
16 CROSS EXAMINATION
17 BY MR. COX:
18 Q Good evening, gentlemen. Will Cox on behalf of
19 the Commission Staff. And my questions are just directed to
20 Mr. Murphy.
21 One of the main differences between the BCPM and
22 the HAI model is in modeling distribution facilities, and as
23 it pertains to the maximum copper loop links allowed?
24 A (Mr. Murphy) That is correct.
25 Q Now, while BCPM generally constrains copper loops

1 from the DLC to the customer to 12,000 feet, the RAI
 2 deliberately designs the loops out to 18,000 feet, is that
 3 correct?
 4 A Yes, it is.
 5 Q Now, a copper loop beyond 12,000 feet requires a
 6 larger gauge cable, doesn't it?
 7 A Yes, it does.
 8 Q And a loop extending beyond 12,000 feet from the
 9 DLC requires an extended range line card, doesn't it?
 10 A I think the actual cut off is in the vicinity of
 11 13,400.
 12 Q 13,400?
 13 A Right.
 14 Q So, as long as a copper loop link between 12,000,
 15 or I guess you are saying 13,400 and 18,000 is provisioned
 16 on 24-gauge cable with an extended range line card,
 17 shouldn't it work as well as a copper loop constrained to
 18 12,000 feet?
 19 A Work for what purposes?
 20 Q For the purposes of the grade of service that we
 21 are talking about for universal service here?
 22 A If that grade of service is considered to be
 23 restricted to voice transmission, then, yes, I would agree
 24 with you. If that grade of service is intended to
 25 accommodate, say, today's modem speeds, which typically go

1 to you look at is the T-1 copper issue, the MST issue.
 2 Q We are talking about voice grade service, and you
 3 are saying that basically at a point they can provide the
 4 same level of voice grade service, it wouldn't come down to
 5 the installation costs as being the primary driver and
 6 difference?
 7 A It is a driver in cost difference, but I don't
 8 believe for a minute it's the only criteria that you should
 9 judge the two models on.
 10 Q That's not what I'm saying. I'm asking you about
 11 with regard to the specific, the specific factor. I mean,
 12 this limitation that we are talking about in the 12,000 foot
 13 versus the 18,000 foot limitation, and you are trying to
 14 decide which is the proper limitation in this respect.
 15 A Okay. So you are asking me to help with your
 16 decision as to whether you should go for 12,000 feet or
 17 18,000 feet, is that --
 18 Q Right. Basically, what basis would you choose
 19 between those two?
 20 A Well, there is obviously a cost difference, there
 21 is a service quality difference with respect to -- not with
 22 respect to voice grade services, but with respect to modem
 23 speeds and with respect to the compatibility of the network
 24 to handle advanced services. I have difficulty separating
 25 the MST argument from this particular item because if you

1 up to 56 kilobits, I would not agree with that.
 2 Q Would that be able to handle a 28.8 speed modem?
 3 A Close to. I think there was a more accurate
 4 discussion than I can provide provided by Doctor Duffy-Deno
 5 on those issues the other day, but close to.
 6 Q So then would the main differences in costs
 7 between the two models be really between the two types of --
 8 let me strike that. Then would any differences in cost
 9 between the two types of installation be the sole basis for
 10 choosing one over the other?
 11 A Could you repeat that, please.
 12 Q Sure. We are still in the context of talking
 13 about the two different models and the constraints one
 14 having a 12,000 limitation and the other having 18,000?
 15 A Yes.
 16 Q Based on the discussion we have just had, would
 17 any differences -- then necessarily would any differences in
 18 cost between the two types of installation be the sole basis
 19 for choosing one over the other?
 20 A No, that certainly shouldn't be the sole basis
 21 for choosing one over the other.
 22 Q Okay. Would it be a primary basis?
 23 A No, I don't think so. I think there is a myriad
 24 of items that have to be examined. Many of them have been
 25 laid out in Exhibit TJT-2. One item that I would urge you

1 fixed the MST problem then the copper loop links in the
 2 distribution obviously have to get bigger, and that being
 3 the case, your cut off points and your cluster development,
 4 for example, is going to change.
 5 Q Assuming that each provide the same grade of
 6 service, wouldn't the cost of installation be the primary
 7 thing you would look at? What else would you look at if you
 8 assume that they were providing the same quality of service?
 9 And we are talking in the limited context of universal
 10 service in this context.
 11 A If your only consideration is cost and the only
 12 service that you want to provide to the consumers here in
 13 Florida is a voice grade service, then, yes, it would be
 14 acceptable to use an 18,000 foot standard. But if you want
 15 your consumers here in Florida to be able to use their
 16 modems effectively and to have a network that will be able
 17 to offer the advanced services that the FCC says the network
 18 should not impede the provision of, then you should stick
 19 with the 12,000 foot standard. The 12,000 foot standard, I
 20 need to point out, as I already have several times, is the
 21 current standard that not only GTE, but all of the ILECs use
 22 across the country. I see no reason to go backwards to the
 23 revised resistance design standard that was the predecessor
 24 to the current standard.
 25 Q Does the standard that you are saying we should

1 not go back to, does that meet the standard established by
2 the FCC in its fourth reconsideration order on universal
3 service with the 300 to 3000 Hertz grade of service?
4 A I'm not familiar with t grade of service that
5 you are citing. I will accept that that type of language
6 may be in the FCC's order, but in addition to that type of
7 language is the language that deals with the deployment of a
8 network that will not impede advanced services. I think
9 that if you are going to stick with one of the FCC's
10 criteria, then you probably should be consistent and stick
11 with all of them.

12 Q So you are not familiar with the bandwidth
13 standard that the FCC has prescribed?

14 A If it is in the universal service order, I'm sure
15 I have read it. I'm not -- at this point in time, it
16 doesn't come to mind exactly where it is. But I accept your
17 characterization.

18 MR. COX: Thank you, Mr. Murphy.

19 MR. WILLIAMS: No redirect.

20 CHAIRMAN JOHNSON: Exhibits.

21 MR. WILLIAMS: Well, I had already mentioned the
22 testimony, the attachments, and the exhibits to the -- I'm
23 sorry.

24 CHAIRMAN JOHNSON: Yes. I identified the
25 exhibits, but I will admit 69 and 70 without objection.

1 previously? Were you sworn in?

2 WITNESS SICHTER: No.

3 (Witness sworn).

4 Thereupon,

JAMES W. SICHTER.

6 was called as a witness on behalf of Sprint and, having been
7 duly sworn, testified as follows:

DIRECT EXAMINATION

9 BY MR. REHWINKEL:

10 Q Mr. Sichter, state your name for the record,
11 please?

12 A My name is James W. Sichter.

13 Q Did you previously file prefiled direct testimony
14 of some 17 pages in this matter?

15 A Excuse me, it was rebuttal testimony.

16 Q Rebuttal, I apologize.

17 A Yes, I did.

18 Q Accompanied by three exhibits?

19 A Yes.

20 Q Mr. Sichter, do you have any changes or
21 corrections to make to that testimony?

22 A No, I do not.

23 Q If I asked you the questions contained therein
24 today, would your answers be the same?

25 A Yes.

1 MR. WILLIAMS: Yes, thank you.

2 (Exhibit 69 and 70 received into evidence.)

3 MR. REHWINKEL: Madam Chairman, before you make a
4 decision on adjourning, could I just ask if it is possible
5 to consider putting Mr. Sichter on? I believe he can get on
6 and off very quickly. I know it's late.

7 COMMISSIONER GARCIA: Why do you think you can
8 get off -- these gentlemen don't have questions, or --

9 MR. REHWINKEL: I think MCI said they had maybe
10 five minutes. He promised me he could cut his summary way
11 down.

12 CHAIRMAN JOHNSON: Actually, I have five minutes
13 for him in total, but polling over here, Mr. Henry --

14 MR. KENNY: I think I can do it in well under
15 five minutes if we are operating because he wants to get out
16 of here tonight.

17 COMMISSIONER GARCIA: How about if he cuts his
18 intro, too?

19 CHAIRMAN JOHNSON: One question.

20 MR. KENNY: Probably two questions, one minute.

21 CHAIRMAN JOHNSON: Go ahead and come forward.

22 COMMISSIONER GARCIA: I hope it has nothing to do
23 with the fine time we have been showing you here in
24 Tallahassee.

25 MR. REHWINKEL: Mr. Sichter, were you sworn

1 MR. REHWINKEL: Madam Chairman, I ask at this
2 time that Mr. Sichter's prefiled rebuttal testimony be
3 inserted into the record as though read.

4 CHAIRMAN JOHNSON: It will be inserted.

1 MR. KEENINGEL: And that his Exhibits JWV-1
2 through J be identified as a composite exhibit.
3 CHAIRMAN JOHNSON: They will be identified as
4 Composite Exhibit 71.
5 (Composite Exhibit to be marked for identification.)
6 BY MR. KEENINGEL:
7 Q Mr. Sichter, with the glare of dozens of eyes
8 upon you at this late hour, do you have a summary to give of
9 your testimony?
10 A Yes, a brief one. The purpose of my rebuttal
11 testimony will address certain recommendations of Mr.
12 Gillan and Mr. Guepe. To some extent I'm covering the same
13 ground as Doctor Taylor, so I just want to briefly make a
14 couple of points.
15 First, I want to emphasize that the issue of
16 universal service is primarily an issue of rate structures,
17 not of revenue sufficiency. The revenues to support
18 universal service in Florida exist today, the problem is how
19 those revenues are recovered.
20 Today we price local service below cost and make
21 up the shortfall by pricing other services, particularly
22 access, toll, and features above cost. And Congress clearly
23 recognized that this system of implicit subsidies was
24 unsustainable. That competition would erode those prices
25 and, therefore, the source of the universal service subsidy.

1 First of all, we need to identify the difference between the
2 cost of serving customers and the basic local rate today to
3 identify the magnitude of the subsidy. Secondly, local
4 service rates should be increased, and to the extent
5 increasing local rates would jeopardize universal service,
6 the difference between rates and the costs should be funded
7 through an explicit competitively neutral, portable
8 universal service fund.
9 Any revenues generated from either local rate
10 increases or new universal service funding should be offset
11 dollar-for-dollar in a reduction in implicit subsidies. I
12 hope that was brief enough. Thank you.
13 MR. KEENINGEL: Mr. Sichter is available for
14 cross examination.
15 CHAIRMAN JOHNSON: Mr. Henry.
16 CROSS EXAMINATION
17 BY MR. HENRY:
18 Q Mr. Sichter, my name is Mickey Henry, and I
19 represent MCI in this proceeding. I have just have a very
20 few questions. Hopefully we can move through this thing
21 quickly.
22 You criticize Mr. Gillan and Mr. Guepe for
23 advocating the use of the average residential revenue
24 benchmark, correct?
25 A That is correct.

1 and that is why they required that the implicit subsidies be
2 removed and replaced with an explicit universal service
3 fund.
4 Secondly, and perhaps more importantly, it's
5 necessary to understand that the existing rate structure
6 effectively precludes facility-based competition to the vast
7 majority of customers. With local service priced below
8 cost, the only profitable customers are customers who are
9 heavy users of optional services, access, toll, features,
10 again.
11 The reality is that most customers do not, are
12 not profitable to serve. Sprint undertook a study of this
13 very issue looking at a sample of our customers in the State
14 of Florida, and what we found was that looking at the total
15 revenues generated by those customers, comparing that to the
16 total costs, that 29 percent of the customers, residential
17 customers were profitable. 71 percent did not generate
18 enough revenues, total revenues to cover their total cost.
19 Clearly, no rational facility-based competitor is
20 going to seek to serve those 71 percent of the customers.
21 On the other hand, the other 29 percent are somewhat
22 attractive to serve, and we can expect as competition
23 evolves for that small set of customers, the sources of
24 subsidy in universal service will begin to erode.
25 The solution to Sprint, at least, is clear.

1 Q And you state, I believe, on Page 4 of your
2 testimony, that the use of this is inconsistent with the
3 Telecommunications Act of 1996?
4 A That is correct.
5 Q And you are aware, are you not, that the FCC has
6 adopted a similar type benchmark?
7 A The FCC in its May 7th, 1997, order did adopt the
8 revenue benchmark. I would point out a number of things
9 there. First of all, that they are wrong. Secondly, that
10 many petitions for reconsideration of that particular aspect
11 of the decision were filed. The FCC has not yet acted on
12 those petitions for reconsideration, and although it was not
13 one of the issues referred explicitly to the Joint Board at
14 the Seattle Joint Board meeting, the FCC quite explicitly
15 asked the Joint Board if they had any recommendations on
16 benchmarks, that they would be glad to entertain those. And
17 indeed there is a number of proposals out there that have
18 some currency, that would propose using cost benchmarks and
19 there is another one that has a variable benchmark. I do
20 not take it as accepted that the revenue benchmark is a done
21 deal.
22 Q So, in addition to Mr. Guepe and Mr. Gillan, also
23 the FCC, which is charged with administering this, is also
24 in violation of the act?
25 A In my opinion, yes. I mean, you are including

1 revenues that are the source of the implicit subsidies that
2 Congress mandated we get rid of and replace with explicit
3 subsidies, and that is inconsistent.

4 Q Let me ask you to turn to Page 13, very quickly.
5 There you discuss Mr. Gillan argues that the geographic unit
6 used to determine universal service costs and unbundled
7 network element costs should be the same. And there you
8 agree with Mr. Gillan, correct?

9 A Yes. I agree with Mr. Gillan and Mr. Guepe both
10 with one caveat. I don't know if Mr. Gillan made this
11 error, but Mr. Guepe did, and he argued that because -- that
12 universal service should be set on a statewide average cost
13 because apparently BellSouth has averaged statewide UNEs.
14 That, in my opinion, is compounding one error with another.

15 As I argue in my rebuttal testimony, we need to
16 move to implement USF at a disaggregated level at least at
17 the wire center and preferably below. I would absolutely
18 agree that having done that, and that is the proper thing to
19 do in this proceeding, that UNE prices be deaveraged to the
20 same geographic area.

21 Q Let me ask you to take a look at -- Madam
22 Chairman, could I have the next exhibit number?

23 CHAIRMAN JOHNSON: 72.

24 Q Let me ask you to look, Mr. Sichter, at something
25 that we are having marked as Exhibit 72, Hearing Exhibit 72.

1 one, 1078, as I understand what we did is there is a number
2 of exchanges and they may be listed in here and which ones
3 are in wire center band one, and we averaged the cost for
4 all of those wire centers within band one to get the 1078.

5 Q Would you accept, Mr. Sichter, that Sprint's
6 proposal for its loops was actually for these six bands,
7 that the negotiations took place about the pricing that
8 would go in there? That it was Sprint's proposal to do
9 disaggregate down to six bands?

10 A Yes.

11 Q Okay. Is that consistent with what you have seen
12 in other places where your company has presented loop --
13 deaveraged loop proposals?

14 A You are going to clarify whether you are talking
15 about our CLEC side or ILEC side.

16 Q Your ILEC, incumbent LECs?

17 A Yes, we certainly recognized a need for
18 deaveraged loops and are willing to negotiate on that basis,
19 yes.

20 Q Okay. So, I take it then -- but you do have a --
21 if an ILEC has averaged rates, then, UNE rates, loop rates,
22 then shouldn't their USF also be on an average, on the same
23 level of averaging?

24 A No, I think I would disagree with that for the
25 following reason. I think, again, that USF needs to be

1 And this is a -- it's an order of this Commission approving
2 an amendment to an interconnection agreement between
3 MCInetro Access Transmission Services, Inc., and
4 Sprint-Florida Incorporated. Have you got that?

5 A Yes.

6 Q Would you turn ten pages, actually to the
7 eleventh page back. It would be Page 11 of the document?

8 A Attachment A?

9 Q Yes.

10 A Yes, I'm there.

11 Q Now, if you go down to the part of that
12 attachment called loop, isn't it true that Sprint has or
13 does provide deaveraged loop rates in Florida?

14 A Yes, we did.

15 Q And so you would agree with me, would you not,
16 that USF for Sprint should be deaveraged to this same level
17 of geographic deaveraging that you provide UNE loop rates?

18 A Yes. This was a negotiated agreement, of course,
19 and what we did here was we grouped wire centers into six
20 categories and averaged the cost for those. I would
21 actually propose USF go further and do it on a wire center
22 specific basis. And, again, I will be glad to do the UNEs
23 at that same level.

24 Q At the wire center level?

25 A Yes. All this does, if you look at, say, band

1 disaggregated to at least the wire center level. I will
2 tell you it is Sprint Corporation's opinion that average UNE
3 rates are contrary to the act, which requires cost-based
4 rates. And the solution to your issue, sir, is simply that
5 the UNE rates need to be deaveraged.

6 Q Well, in the absence of deaveraging, if you do
7 USF on a deaveraged basis, isn't true that unless these two
8 costs are determined on a reasonably consistent basis there
9 will be opportunity for economic --

10 A Oh, absolutely. But, again, the solution is not
11 to do USF wrong; it's to do the UNEs right. And that means
12 that USF should be deaveraged and UNEs should be deaveraged.

13 Q What should be the timing of that?

14 A Well, I think that I can't address that. You are
15 asking I think maybe a legal issue, and that is how quickly
16 can, for example, this Commission mandate other companies to
17 deaverage their UNEs. I don't know the answer to that. I
18 think that it has to be reasonably fast, but I can't define
19 fast.

20 Q Should this Commission try and synchronize the
21 timing of its establishment of an universal service fund at
22 a level of disaggregation being suggested and the
23 establishment of deaveraged UNEs on that same basis?

24 A I don't feel comfortable answer that yes, because
25 I don't know what is involved in that synchronization. I

1 will say that they need to proceed with USF at a
2 disaggregated basis and move with all due speed to deaverage
3 UNKs.

4 Q Synchronization is a fancy word. Shouldn't they
5 do it at the same time?

6 A Ideally.

7 MR. HENRY: That's all I . . . I will yield the
8 balance of my time to the Chairman.

9 CHAIRMAN JOHNSON: Mr. Hatch, you didn't have
10 any, did you?

11 MR. HATCH: Just a couple. It shouldn't take
12 very long.

CROSS EXAMINATION

14 BY MR. HATCH:

15 Q You have a chart in your testimony on Page 6 that
16 is a revenue analysis of your customer base, or Sprint's
17 customer base as of September 1996, is that correct?

18 A That's correct, yes.

19 Q Have you updated this analysis to reflect --

20 A No, I have not.

21 Q -- any of the rate increases and the additional
22 revenues generated by additional tariff filings since that
23 1996 --

24 A No. As I point out in here, we did reflect July
25 of 1997 access rates, and it was also July intralATA toll

1 simply exactly the way Sprint Corporation has filed their
2 cost studies in this proceeding, using forward-looking costs
3 in the BCPM model.

4 Q Okay. Is that the total annual or monthly costs,
5 or is it the average per line cost that we should report?

6 A The average monthly cost per line.

7 Q Average monthly cost per line?

8 A Yes.

9 MR. COX: Thank you.

10 CHAIRMAN JOHNSON: Commissioners? Redirect?

11 MR. KERNING: No redirect.

12 CHAIRMAN JOHNSON: Exhibits.

13 MR. KERNING: I would like to move Exhibit 71.

14 CHAIRMAN JOHNSON: Show that admitted without

15 objection.

(Exhibit 71 received into evidence.)

16 MR. HENRY: Madam Chairman, I would like to move
18 Exhibit 72.

19 CHAIRMAN JOHNSON: Show it admitted without

20 objection.

(Exhibit 72 received into evidence.)

21 MR. HENRY: Thank you.

22 CHAIRMAN JOHNSON: We will adjourn and reconvene
24 tomorrow at 9:00.

(Transcript continues in sequence with Volume

1 rates. So it has been a little bit updated, but it is not
2 current. And my purpose was simply to write some semblance
3 of idea of what the revenue distribution looked like. It's
4 not going to be too sensitive to changes like that.

5 Q Have you undertaken or are you going to undertake
6 an update to this table?

7 A I have no explicit plans to do so, no.

8 MR. HATCH: No further questions.

9 CHAIRMAN JOHNSON: Did you say no further
10 questions?

11 MR. HATCH: No more questions.

CROSS EXAMINATION

13 BY MR. COX:

14 Q Good evening, Mr. Sichter. I just have a couple
15 of questions for you. Will Cox on behalf of the Commission
16 Staff.

17 You stated in your summary of your testimony, and
18 it states in the legislation that as a result of this
19 proceeding the Commission is to figure out the cost of
20 providing basic local service, is that correct?

21 A Yes.

22 Q For the purposes of this proceeding and the
23 report that we are going to file to the legislature coming
24 out of this proceeding, how would you define the word cost?

25 A Now would I define the word cost? I would do

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- [1] 1938:1 - [101] 1938:10; 1940:18; 1941:4, 13; 1942:4, 12, 13, 25; 1943:20; 1944:22; 1948:12; 1948:1, 3, 18; 1950:17; 1951:13, 19; 1952:4, 2; 1955:11; 1957:1; 1958:21, 23, 25; 1959:8, 29; 1960:7, 12; 1961:3, 9, 16, 21; 1962:8; 1963:8, 16; 1964:17, 23; 1965:7; 1966:14; 1967:13, 21, 25; 1968:8, 8, 14, 16, 23; 1969:8, 14, 17; 1970:17; 1971:1, 18, 24; 1974:2, 8, 11, 14; 1975:3, 7, 10; 1976:16; 1979:25; 1982:19; 1983:7, 16; 1984:9, 10, 24; 1982:21; 2046:8, 23; 2047:9; 2049:13; 2051:9, 11; 2052:1, 25; 2053:2, 19; 2090:7, 17; 2091:17, 21; 2093:15, 22; 2064:8, 13; 2088:11, 21; 2089:1; 2090:12, 20; 2091:9; 2092:18, 21, 23 _____ [1] 1936:8 _____ [1] 1936:3	- 2 - 2 [4] 1956:11, 17; 1978:17; 2041:6 2.2.2 [4] 1991:23, 25; 1992:4, 6 20 [5] 1044:14, 16, 22, 24; 2046:7 2019 [1] 1937:12 2041 [3] 1937:13; 1938:4, 5 2058 [1] 1937:14 2063 [2] 1938:4, 5 2065 [1] 1937:17 2084 [2] 1937:19; 1938:8 2088 [1] 1937:19 2088 [1] 1938:7 2092 [1] 1937:20 2093 [1] 1937:21 2094 [2] 1938:6, 7 2095 [1] 1938:11 22 [1] 2053:7 24-gauge [1] 2059:16 24th [1] 1991:17 25 [4] 1954:22, 23; 1955:15; 1991:13 254 [1] 2050:10 28x8 [1] 2060:2 29 [2] 2085:16, 21	- 5 - 6 [14] 1949:6, 7, 12, 13; 1959:23, 24; 1974:8; 1978:17; 1987:14; 2042:13, 18, 24; 2052:4 5.0 [3] 1991:25; 1992:2, 12 5.0a [2] 1979:1; 2041:8 5.5.1 [1] 1979:10 60 [3] 1944:10; 1965:1; 1973:3 68 [1] 2080:1 670 [1] 1991:17 68 [1] 2055:6 - 6 - 6 [2] 1986:9; 2092:15 60 [5] 2053:13; 2054:10, 20, 23; 2055:11 63 [1] 2051:8 65 [1] 1978:18 68 [3] 1938:3; 1975:21, 23 69 [4] 1938:4; 2041:10; 2063:25; 2064:2 - 7 - 7 [10] 1936:18; 1979:8, 9; 2042:12, 13, 17, 18, 23, 24; 2046:6 7-71 [1] 1988:23 70 [4] 1938:5; 2041:10; 2063:25; 2064:2 71 [7] 1938:6; 2084:4, 8; 2085:17, 20; 2094:13, 16 72 [8] 1938:7; 2088:23, 25; 2094:18, 21 73 [1] 2051:9 73.9 [3] 2053:16, 21; 2054:9 74 [2] 2055:10, 14 75 [2] 1954:22, 24 7th [1] 2087:7 - 8 - 85 [2] 2053:13; 2054:10 - 9 - 9 [6] 1979:8; 2050:8, 13; 2052:5; 2084:24 97 [1] 1979:18 980696-ep [1] 1936:4 999 [1] 2050:20 - A - ability [1] 1957:1 able [10] 1944:16; 1950:10; 1962:12; 1962:12; 1968:21; 1989:24; 2057:13; 2060:2; 2062:15, 16	
- 0 - 00 [1] 2094:24 02072 [1] 1987:15 02142 [1] 1978:24 - 1 - 1 [4] 1978:24; 1978:17; 1979:25; 2041:3 10,000 [1] 1946:13 10 [1] 1982:25 100 [8] 1947:15; 1958:8, 8; 2052:19; 2057:3, 22, 25; 2058:2 1078 [2] 2090:1, 1 11 [3] 2048:20; 2049:4; 2089:7 113 [1] 1978:19 12,000 [1] 1978:25 12 [2] 1979:9 12,000 [13] 1981:10; 1982:14; 1987:3; 2059:1, 5, 8, 14, 18; 2060:14; 2061:12, 16; 2062:19 12th [1] 1977:19 13 [3] 1977:9; 1993:14; 2061:6 13,400 [3] 2059:11, 12, 15 13 [1] 2068:4 14 [3] 1938:17; 2051:11; 2055:11 148 [1] 1938:19 15 [7] 1947:18; 1965:19; 1966:2, 9; 1968:5; 1991:16; 2050:13 150 [5] 1962:19, 23; 1963:8, 18; 2051:16 16 [2] 1939:2, 4 17 [5] 1938:10; 1938:1; 1973:2; 2051:8; 2065:14 18,000 [3] 1979:13; 1982:14; 1987:7 18 [1] 2053:5 18,000 [6] 2059:2, 15; 2060:14; 2061:13, 17; 2062:14 18 [1] 2095:1	- 3 - 3,000 [1] 1982:28 3 [4] 1991:17; 1988:22; 1987:14; 2084:2 3-11 [1] 1985:17 3.50 [1] 1954:1 30 [4] 1938:18; 1944:12; 1991:2; 2047:10 300 [3] 1991:9; 1991:3; 2063:3 3000 [1] 2063:3 31 [1] 2054:13 33 [2] 1974:18; 1978:2 347 [5] 1978:18; 2041:7; 2052:5; 2063:7; 2096:15 35 [2] 2047:9, 11 364.025 [1] 1936:8 - 4 - 4 [1] 2087:1 40 [2] 1974:16, 17 400 [1] 1962:25 4075 [1] 1936:20 45 [1] 2058:14 48 [1] 2059:23	above [2] 1978:19; 2084:22 absence [1] 2091:8 absolute [3] 1990:23; 2055:24; 2058:1 absolutely [5] 1940:7; 1973:20; 1984:14; 2088:17; 2091:10 accept [12] 2048:8; 2051:12, 14; 2053:20, 23; 2055:5, 8, 9, 12; 2063:5, 16; 2090:5 acceptable [2] 2049:21; 2062:14 accepted [9] 1984:16, 20; 1985:5, 21; 2047:20; 2087:20 access [12] 1941:15; 1950:20; 1952:12; 1954:11; 1960:7; 1973:1; 1980:19; 1989:3; 2084:22; 2089:9; 2089:3; 2092:25 accommodate [7] 2049:11, 22; 2052:8; 2057:8, 13, 20; 2059:25 accommodating [1] 1982:2 accompanied [1] 2065:18 account [3] 1991:1; 2046:8, 18 accurate [2] 1982:14; 2060:3 accused [1] 1980:3 achieved [1] 1988:2 acres [1] 1991:17 across [2] 1986:24; 2062:22 act [3] 2087:3, 24; 2091:3 acted [1] 2087:11 action [1] 1980:19 active [1] 1983:1 actual [2] 2043:12; 2059:10 actually [14] 1944:20; 1945:24; 1949:23; 1963:7; 1989:9; 2043:2, 3; 2048:26; 2052:3; 2054:2; 2064:12; 2089:8, 21; 2090:9 add [8] 1990:22; 1991:3, 14; 2047:23; 2048:24; 2062:25 added [1] 1991:4 adding [1] 1991:14 addition [5] 1957:4; 2049:3, 19; 2063:9; 2087:22 additional [8] 1939:16; 1982:10; 2048:24; 2049:3, 5, 7; 2092:21, 22 address [5] 1979:17; 1987:12, 14; 2084:11; 2091:14 addressed [1] 1983:24 addresses [1] 1950:15 adds [1] 1991:2 adhere [1] 1991:10 adjourn [1] 2094:23 adjourning [1] 2084:4 administering [1] 2087:23 admission [3] 1993:12, 15; 2041:12 admit [1] 2063:25 admitted [4] 1979:22, 23; 2094:14, 19 admits [1] 1938:2 adopt [1] 2087:7 adopted [1] 2087:8 adoption [1] 1943:2 adel [5] 2048:20, 22; 2049:4, 9, 19 advanced [20] 1982:2; 2046:8, 17, 19; 2047:8, 18; 2048:1, 5, 8, 10, 12, 19, 21, 25; 2049:25; 2050:6; 2081:24; 2082:17; 2083:8 advances [1] 1973:25 advantage [4] 1951:23, 24; 1986:4; 1972:22	

<p>advertised [1] 1948:5 advocating [2] 1944:2; 2088:23 aerial [7] 2053:8, 21, 25; 2054:1, 4, 6, 7 affect [1] 1956:1 affected [2] 1978:18, 19 affects [2] 1978:18; 1980:7 affidavit [2] 1977:18; 1978:3 affiliation [1] 1987:11 afford [1] 1958:7 again [11] 1942:22; 1962:17; 1983:10; 1988:3; 2042:22; 2045:24; 2053:6; 2085:10; 2089:22; 2090:25; 2091:10 against [4] 1988:20; 1990:2, 5; 2044:18 aggregate [2] 1953:18, 21 aggressive [1] 1979:25 ago [2] 1970:22; 2048:9 agree [12] 1954:4; 1968:11; 1973:8, 21; 2049:13; 2056:4; 2059:23; 2080:1; 2088:8, 9, 18; 2089:15 agreement [2] 2089:2, 18 ah [1] 1985:12 ahead [3] 1948:16; 1972:4; 2044:21 airline [1] 1991:3 alec [1] 1951:20 aleca [1] 1948:9 alike [3] 1950:12, 13; 1951:20 all [77] 1938:11; 1941:10; 1943:8; 1946:8; 1947:22; 1948:18, 22, 25; 1949:2; 1950:1, 7; 1953:3, 12, 13; 1954:5, 10, 17; 1955:25; 1956:7, 9, 22; 1957:24; 1959:8, 12; 1960:2; 1963:4, 19, 21, 22; 1964:12; 1965:1; 1967:5; 1968:13; 1969:5, 6, 13; 1970:7, 25; 1971:2, 20; 1972:16, 17; 1973:10, 17; 1974:3, 17; 1975:14; 1976:17; 1977:9; 1986:12, 15; 1988:22; 1991:16; 1993:5; 2043:7; 2045:4, 18, 23; 2048:10, 21; 2050:8; 2052:1, 7, 15, 20; 2054:8; 2055:1; 2057:24; 2058:7; 2062:21; 2063:11; 2078:1; 2087:9; 2089:25; 2090:4; 2092:.., 7 allocations [1] 1985:21 allow [1] 2052:10 allowed [1] 2058:23 allows [2] 1988:15; 1972:21 alluded [1] 1988:22 almost [1] 1987:12 along [3] 1978:8; 1982:8; 2088:8 already [4] 1948:17; 1967:9; 2082:20; 2083:21 although [2] 2081:1; 2087:12 always [1] 1948:24 amendment [1] 2089:2 america [1] 1981:19 among [3] 1958:10; 1984:8; 1991:10 amount [23] 1943:13, 16; 1983:7, 10, 12, 16, 19, 21, 22; 1984:8; 1988:23; 1956:16; 1984:13; 1974:20; 1978:15; 1988:10, 14; 1990:25; 2047:11, 12, 13; 2057:3 amounts [1] 1980:12 analogy [1] 2080:3 analysts [18] 1977:4, 6, 8, 14; 1978:8, 22; 1979:16; 1982:12; 1986:16; 1990:17, 22; 2041:7, 11; 2051:18, 23; 2082:16, 19</p>	<p>ancillary [4] 1988:21; 1989:3; 1989:9; 1978:13 angle [1] 1978:13 angles [1] 1991:2 angry [1] 1973:8 annual [1] 2084:4 another [11] 1947:13; 1954:14, 15; 1957:8; 1988:18; 1982:11; 1982:18; 1991:21; 1982:17; 2087:19; 2089:14 answer [10] 1955:4; 1984:21; 1974:22; 2043:1; 2048:22; 2051:20; 2055:15; 2081:17, 24 answered [2] 1972:19; 2053:1 answers [1] 2065:24 antenna [1] 1981:18 anticompetitive [1] 1989:12 anxious [1] 1948:8 anybody [2] 1981:8, 11 anymore [1] 1974:9 anyone [2] 1981:1; 1985:28 anything [6] 1944:23; 1991:4; 1958:3; 1956:1; 1930:9; 1988:4 anyway [1] 1980:22 apologize [1] 2085:16 apparently [1] 2088:13 appear [1] 1992:13 appearances [1] 1938:23 appeared [1] 1991:24 appears [1] 1982:23 apply [1] 1983:19 approach [2] 2044:1, 22 approaches [1] 2048:1 appropriate [4] 1981:24; 2041:23; 2042:3, 21 approving [1] 2089:1 approximately [2] 1980:5; 1985:9; 2048:14 april [1] 1958:10 arbitration [1] 1991:24 architecture [2] 1981:9, 24 area [25] 1941:24; 1948:22; 1947:4; 1950:20, 21; 1952:2; 1958:9; 1989:19; 1987:18, 19; 1981:11; 1982:14; 1987:1; 1990:19; 1991:14, 15, 19; 1992:5; 2045:14; 2090:20, 21; 2091:8; 2053:20; 2088:20 areas [25] 1941:3, 8; 1946:11, 15; 1950:11, 12, 13; 1981:21; 1982:20; 1983:1; 1987:3; 1988:11; 1988:16; 1988:22; 1979:18, 22, 23; 1981:22; 1987:1; 1988:20, 21; 1990:16, 20, 21; 1991:8, 10, 20; 1992:8; 2044:21, 25; 2045:15, 24; 2080:25 aren't [6] 1947:2; 1951:7, 13; 1952:19; 1981:10, 11 argue [2] 1989:18; 2088:17 argued [1] 2088:11 argues [1] 2088:5 argument [1] 2081:25 armis [2] 1989:8; 2043:21, 23 around [2] 1983:4; 2048:7 articulated [1] 1988:2 artificial [2] 1947:1; 1982:16 artificially [6] 1978:5, 7; 1988:21; 1989:12, 17 ask [10] 1980:16; 1982:8; 1985:21;</p>	<p>1981:2; 1987:11; 2064:4; 2066:1; 2088:4, 21, 24 asked [2] 1972:8; 2085:23; 2087:15 asking [6] 2048:4, 11; 2048:14; 2061:10, 18; 2081:15 aspect [1] 2087:10 associated [1] 2054:3 associates [1] 1978:24 assume [4] 1944:3, 15; 1950:8; 206:8 assumed [1] 1983:15 assumes [2] 2053:16, 18 assuming [4] 1955:23; 1956:20; 2053:3; 2082:5 assumption [4] 1940:19; 2053:12, 13; 2058:1 assumptions [2] 1981:9; 1972:17 assure [2] 1964:20; 1985:11 asymmetry [2] 1948:13; 1988:14 atlanta [1] 1971:25 attached [2] 1977:9; 1978:10; 1988:1 attachment [2] 2042:24; 2089:8, 12 attachments [2] 1977:7; 1993:14; 2063:22 attempted [1] 1979:18 attract [1] 1945:20 attractive [4] 1940:5; 1985:15; 1988:8; 2089:22 author [1] 1978:8 authored [1] 1977:10 authority [1] 1987:7 available [3] 1983:11; 2043:8; 2088:13 average [23] 1940:2; 1943:8, 11; 1944:11; 1953:2, 6; 1968:22; 1991:10, 16; 1982:18; 2081:8, 9, 15, 18; 2054:18; 2055:20; 2089:23; 2088:12; 2090:22; 2091:2; 2094:5, 6, 7 averaged [5] 1948:18; 2088:12; 2089:20; 2090:3, 21 averaging [1] 2080:23 avoid [1] 1981:19 aware [4] 1977:17, 20; 2053:18; 2067:5 away [6] 1949:8, 13; 1950:24; 1980:3; 1983:11; 1975:3 awhile [2] 1970:12, 21, 22</p>	<p>bases [1] 1988:7 basic [34] 1938:3; 1939:15; 1942:1, 8, 9; 1943:8; 1944:8; 1945:13; 1948:10; 1951:17; 1967:23; 1989:7, 22; 1989:9; 1981:8; 1982:9; 1984:12, 16, 19; 1985:4, 9, 16, 18; 1987:10; 1982:21; 2044:3; 2048:12; 2047:2, 6, 10, 14; 2049:17; 2088:2; 2093:20 basically [4] 1982:17; 2048:8; 2081:3, 18 basing [2] 1988:13; 1989:18 basis [21] 1943:14; 1947:13; 1987:23; 1989:7; 1982:8; 2042:10; 2043:6; 2044:8, 17; 2047:11; 2089:8, 18, 20, 22; 2081:18; 2089:22; 2090:18; 2091:7, 8, 23; 2092:2 bcpm [24] 1980:24; 1981:4, 8; 2043:10, 11, 16, 19; 2048:21; 2047:7; 2048:9, 18, 24; 2049:4; 2050:19; 2051:2, 15, 18; 2052:23; 2053:20; 2055:3; 2056:10; 2058:21, 25; 2064:3 beach [1] 1938:23 because [33] 1939:22; 1940:14; 1942:8, 12, 20; 1943:24; 1946:16; 1947:15; 1948:3, 16; 1954:13; 1955:17, 24; 1957:15, 17; 1958:7; 1959:18; 1962:10, 11, 21; 1963:13; 1966:14, 20; 1967:13; 1968:5; 1970:8; 1971:13, 23; 1972:1, 8; 1973:13, 25; 1974:1, 22, 23, 24; 1982:11, 19; 1982:3; 2043:11; 2048:23; 2050:1; 2057:10, 24; 2061:25; 2064:15; 2088:11, 13; 2091:24 become [4] 1940:11; 1987:19; 1988:20; 1989:22 been [21] 1953:25; 1954:1; 1962:21; 1972:5; 1978:8, 12; 1977:10; 1978:22; 1979:21; 1980:4, 8, 9; 1993:2, 3; 2043:9; 2045:10, 17; 2080:24; 2084:23; 2088:9; 2093:1 before [6] 1938:1, 14; 1984:16; 1982:20; 1985:4; 2064:3 beg [1] 1948:5 begin [2] 1984:12; 1973:15; 2085:24 beginning [2] 1970:7; 2080:5 behalf [4] 1978:11; 2058:18; 2065:8; 2093:15 behind [2] 1940:16; 1955:18 being [7] 1982:11; 1987:15; 1974:23; 1981:7; 2081:8; 2082:2; 2091:22 believe [17] 1955:19; 1957:2; 1977:9; 1982:21; 1986:1, 2; 1989:9; 2042:5, 19; 2047:5; 2048:8; 2051:2, 4; 2080:22; 2081:8; 2084:5; 2087:1 bellows [3] 1988:20; 2051:8, 17 bella [1] 1947:19 belleouth [18] 1939:12; 1945:8; 1948:7; 1989:15, 23; 1980:17, 19; 1981:14, 17; 1982:20; 1983:4, 19; 1984:8; 1987:24; 1973:19; 2055:5; 2089:13 below [6] 1945:13; 1982:9, 13; 2084:20; 2085:7; 2088:17 benchmark [22] 1941:20, 25; 1942:1, 2, 4, 5, 6, 8, 23; 1943:2, 3, 5; 1944:17; 1948:22; 1954:21; 1955:24; 2088:24;</p>
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<p>2067:6, 8, 19, 20 benchmarks [3] 1991:7; 2087:18, 19 benefit [1] 1989:3 benefits [1] 1989:22 beside [1] 1980:19 besides [1] 1974:4 best [2] 1991:22; 2044:18 better [9] 1980:4; 1991:23; 1994:8; 2043:5, 7, 18, 19, 24; 2044:8 betty [1] 1938:19 between [19] 1942:2, 8; 1955:23; 1980:24; 1988:14; 1989:13; 2047:29; 2048:11; 2058:21; 2059:14; 2060:7, 8, 18; 2061:19; 2066:1, 8; 2069:2 beyond [8] 1948:23; 1983:18, 21; 1984:4; 1988:3; 1987:3; 2059:8, 8 bias [3] 1980:8, 7; 2059:9 big [8] 1939:9; 1946:12, 14; 1988:24; 2041:8 bigger [4] 1979:17; 2058:1, 8; 2062:2 bill [21] 1938:23; 1940:1, 3; 1947:4, 8, 8, 10; 1988:7; 1989:4, 5, 12, 21; 1990:18; 1992:5, 17, 22, 24; 1993:10; 1998:24; 1979:10; 1978:12 billion [8] 1979:14; 1973:12, 15, 23; 1974:5, 18 bit [6] 1939:22; 1963:20; 1984:4; 1991:15; 2050:2; 2093:1 block [1] 2054:3 board [4] 1955:13; 2087:13, 14, 18 body [1] 1956:21 bonds [1] 2090:8 bones [2] 1985:7; 1996:1 book [5] 1983:8, 9, 12, 13; 1988:4 border [1] 2050:8 boston [1] 1987:12 both [8] 1971:5; 1980:18, 19; 1988:3; 2088:9 bottom [3] 2052:3; 2053:8; 2068:18 bought [1] 1947:12 boundaries [1] 1989:1 box [1] 1938:19 boy [1] 1980:9 brief [4] 1988:18; 1987:17; 2084:10; 2088:12 briefly [2] 1980:2; 2084:13 bring [2] 1968:16; 1972:13 brings [1] 1988:17 broad-based [2] 1983:14; 1954:7 broader [1] 1991:19 brought [2] 1945:7; 1973:2 build [4] 1982:16, 20; 1983:13; 2052:20 building [4] 1991:18; 1988:25; 1989:8; 2043:28 buildings [1] 1982:22 builds [8] 1982:19; 1986:9; 2052:8, 23; 2057:2, 3 bull [2] 1957:17; 2052:14 bullet [1] 2052:7 bundle [1] 1948:18 burden [1] 1953:7 bureau [1] 1982:24 bureaucracies [1] 1971:10 buried [3] 2054:21; 2055:1, 10 bury [1] 1982:8 business [7] 1980:15; 1988:18;</p>	<p>1970:11; 1978:17; 1987:11, 13; 1990:17 buy [8] 1948:3, 4; 1947:18; 1980:11, 18; 1989:8 buyers [3] 1988:25; 1989:1, 11 - C - c [1] 1939:1 cable [18] 1982:4, 8; 1985:18; 1991:13; 1982:18, 20; 2045:3, 13; 2050:3; 2053:10; 2054:1, 3, 4, 6, 7; 2059:5, 18 cables [4] 1985:20; 1992:7; 2052:18 cabot [1] 1987:14 calculate [1] 1983:10 calculated [1] 1943:11 call [8] 1989:9, 24; 1980:11; 1983:21; 1996:25; 1978:3 called [8] 1941:28; 1942:7; 1978:11; 2065:8; 2089:12 calling [1] 1971:2 calls [1] 1982:25 cambridge [1] 1978:24 came [2] 1950:19; 1984:25 can't [4] 1989:11; 2056:12; 2091:14, 18 cancer [1] 1989:23 cannot [1] 1988:2 capable [9] 2048:22; 2047:8; 2048:1, 10, 12, 13, 19; 2049:9, 17 capacity [9] 2052:10, 14, 17, 23; 2056:20; 2057:8, 7, 18, 23 car [3] 1948:3, 4 card [2] 2059:9, 18 care [8] 1943:23; 1989:1; 1991:13, 17; 1992:12 careful [2] 1939:25; 2050:22 carrier [11] 1947:13; 1991:20; 1988:12, 20; 1973:1; 1974:28; 1981:21; 1982:14; 1988:25; 1987:22; 1990:12 carriers [1] 1941:19 carry [1] 1982:11 case [9] 1940:4; 1989:18; 1977:1; 1982:24; 1980:20; 1989:17; 2048:8; 2058:8; 2082:3 cases [3] 1979:24; 1991:19; 2055:23 categories [2] 2043:23; 2089:20 cause [1] 1988:21 causes [2] 1983:17; 1982:14 caution [2] 1984:23; 2053:24 caves [1] 2053:10 cell [1] 1970:2 census [1] 1982:24 cent [1] 1988:17 center [28] 1938:19; 1943:8, 12, 14, 15; 1944:8, 11, 18; 1948:2; 1980:25; 1991:1, 11; 1984:11; 1985:21; 1988:8, 7, 19; 1987:22; 1988:13; 1980:14; 2088:17; 2089:21, 24; 2090:3; 2091:1 centers [2] 2089:19; 2090:4 centroid [1] 1979:13 cents [10] 1988:17; 1988:3; 1973:2, 3; 2054:23; 2055:8, 10, 11, 14 certain [8] 1991:17; 1989:22; 1989:1; 1993:2; 2044:4; 2057:9; 2084:11 certainly [10] 1987:20; 1988:9;</p>	<p>1980:17; 1986:24; 1984:10; 1989:2; 2049:21; 2052:21; 2080:20; 2090:17 chal [1] 1978:23 chairman [48] 1938:14; 1942:5; 1952:8, 17; 1953:8; 1954:18; 1955:8, 21; 1956:28; 1987:12; 1988:4, 15; 1975:18, 22, 24; 1978:8; 1984:7, 12, 23; 1988:17; 1993:18; 2041:1, 8, 15; 2058:9, 11, 13, 15; 2083:20, 24; 2084:3, 12, 19, 21; 2088:1, 4; 2084:3; 2088:15; 2088:22, 23; 2092:8, 9; 2093:9; 2094:10, 12, 14, 17, 19, 23 change [12] 1982:16; 1980:10, 12, 13, 15; 1991:11; 1970:3; 1971:11; 1972:18; 1973:24; 1974:24; 2048:1; 2082:4 changed [4] 1955:3; 1991:8; 1974:4; 1982:23 changes [8] 1977:13, 15; 1979:9; 2057:14; 2066:20; 2093:4 changing [2] 1953:7; 1982:3 characterization [2] 2053:24; 2063:17 charge [1] 1940:13; 1941:11; 1991:9; 1954:2, 11; 1973:12; 1985:2; 1973:3; 1990:10 charged [1] 2087:23 charges [2] 1984:15; 1973:1 charging [2] 1982:20; 1965:4 chart [2] 1989:13; 2082:18 check [9] 1948:5; 1982:24; 1983:1, 6, 10, 14; 2091:13, 14; 2055:5 choice [8] 1984:10; 1983:21; 1988:7; 1967:21, 22; 1988:12; 1985:24; 2044:10 choices [8] 1941:8; 1982:23, 25; 1984:1, 8; 2081:18 choosing [4] 2084:18; 2080:10, 18, 21 chosen [1] 1993:2 churn [1] 2057:11 circuit [1] 1980:17 circumstance [1] 1974:18 circumstances [1] 1974:24 cite [4] 1988:10, 21; 1987:8; 2041:25 cling [2] 1988:14; 2083:5 clarify [1] 2090:14 clark [30] 1938:18; 1939:8, 18; 1940:19; 1941:2; 1949:20; 1950:16, 23; 1991:18, 22; 1982:9; 1983:21; 1981:20; 1982:18; 1984:8, 18; 1985:8, 11, 13, 21, 24; 1986:3, 11, 18; 1987:4, 8, 17; 1988:1; 1979:20 clark's [2] 1948:8; 1954:19 class [1] 1980:8 clear [2] 1988:23; 2085:25 cleared [1] 1948:3 clearly [8] 1988:22; 1989:17; 1987:4; 2043:18; 2064:22; 2085:19 clear [1] 2090:18 clear [1] 1948:9 cliff [1] 1982:20 close [8] 1988:19; 1987:8; 1991:21; 2042:9; 2080:3, 6 closer [2] 2043:12, 20 cluster [7] 1979:7, 12, 13; 2050:15, 17, 25; 2082:3 clusters [7] 1991:18, 2045:3, 14, 16,</p>	<p>20; 2048:2; 2050:10 co-authored [1] 2051:24 coffee [1] 1948:8 collocation [1] 1979:4 combat [1] 1988:20 come [20] 1940:18; 1951:8, 12; 1952:2; 1954:25; 1983:4; 1984:22; 1988:22; 1973:18, 19; 1982:18; 1983:9, 25; 1984:9; 1988:12; 2044:22; 2088:4; 2091:4; 2083:18; 2084:21 comes [8] 1947:18; 1958:11; 1982:22; 1983:4; 2042:8; 2057:10 comfortable [1] 2091:24 coming [4] 1957:14; 1970:8; 2048:17; 2082:23 comments [1] 1991:15 commission [20] 1938:1; 1942:15; 1950:17; 1955:14, 19; 1957:1; 1972:3, 4; 1973:22; 1977:18; 1982:15, 21; 1984:1, 21; 2058:19; 2089:1; 2091:18, 20; 2093:18, 19 commission's [2] 1981:18; 1964:3; 1991:25 commissioner [100] 1938:14, 15, 18; 1939:8, 8, 18, 20; 1940:19; 1941:2, 18, 19; 1942:11, 20, 28; 1943:7, 13, 21; 1944:3, 9, 14, 19; 1945:5, 15, 22, 25; 1946:20, 25; 1947:17, 21; 1948:1, 2, 8, 15, 23; 1949:18, 20, 24; 1950:18, 23; 1951:16, 77; 1952:8; 1953:21; 1954:19, 20; 1958:20, 28; 1959:3; 1960:1, 13, 25; 1961:2, 10, 20; 1962:18, 19; 1963:9, 24; 1964:8, 9, 12; 1965:6, 11, 13, 21, 24; 1966:3, 11, 15; 1967:4, 8, 17, 24; 1968:1, 3, 15; 1969:8, 18; 1970:8, 19, 21; 1971:4, 17; 1972:11, 16; 1973:9, 21; 1974:11, 14; 1975:4, 8, 17; 1982:17; 1985:25; 1989:4; 2064:7, 17, 22 commissioners [7] 1937:6; 1939:5; 1978:19; 1984:25; 1987:19; 2088:8; 2094:10 common [1] 2043:22 companies [8] 1940:8; 1980:13; 1982:1; 1983:23; 2044:3; 2091:18 company [10] 1940:8; 1941:24; 1947:7; 1970:15; 2042:19; 2043:2, 4; 2044:17; 2052:10; 2080:12 comparable [2] 2054:10; 2058:10, 11 compare [2] 1943:3; 1980:1 compared [2] 1942:11; 2058:9 comparing [2] 2044:9; 2085:15 comparison [2] 1987:25; 1990:4; 2043:22 compatibility [1] 2091:23 compatible [2] 2049:3, 7, 28 compensate [1] 1988:18 compensation [1] 1948:17 compete [8] 1941:8, 10; 1949:13; 1991:12; 1984:10; 1989:7 competed [8] 1949:8; 1980:3; 1983:11; 1978:3, 14 competing [1] 1948:9 competition [20] 1940:15, 18; 1941:8, 14; 1944:28; 1945:3; 1948:1, 18; 1947:25; 1949:10, 13, 15, 21; 1950:18;</p>
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1952:22, 25; 1958:10, 18; 1961:29; 1968:12, 14; 1969:22, 25; 1979:7, 8, 23, 25; 1988:22; 1989:5, 20, 22; 2056:24; 2057:6, 25; 2058:6; 2084:24; 2085:6, 22	conversely [1] 1981:3 conversations [1] 2080:4 copper [14] 1981:12, 18, 20, 23; 1982:5; 1987:3; 2000:3; 2058:23, 25; 2059:5, 14, 17; 2061:1; 2062:1 corner [1] 2052:9 corners [2] 1984:8, 11 corporation [1] 2094:1 corporation's [1] 2091:2 correct [40] 1942:19; 1944:1, 19; 1945:1; 1948:24; 1956:23; 1959:2; 1967:7; 1971:19; 1977:7, 8, 12; 1978:10, 12, 13; 1979:17, 20; 1981:8; 1987:13; 2043:21; 2044:1; 2045:22; 2048:12; 2051:10, 12, 21, 25; 2053:10, 11, 14; 2054:21; 2058:24; 2059:3; 2068:24, 25; 2067:4; 2068:8; 2082:17, 18; 2093:20 corrected [1] 1982:13 correction [1] 1979:7 corrections [3] 1978:11, 15; 2065:21 cost [95] 1936:5; 1940:2, 9, 10; 1942:3, 5, 6, 8, 12, 21; 1943:16; 1945:13; 1946:11, 17, 21; 1947:4, 5; 1950:11, 12, 13; 1952:18; 1954:11; 1955:24; 1957:2; 1958:2, 3, 6, 11; 1960:6, 24; 1962:3, 9, 13, 19; 1969:16; 1979:4; 1990:7; 1998:1, 18, 19; 1999:20, 21; 1999:1, 4, 14; 1991:15; 2041:22; 2042:3, 14, 20; 2043:22; 2044:11, 18; 2046:12; 2047:7, 23; 2048:23; 2053:19; 2054:20; 2055:6, 9, 11, 13, 20; 2056:2, 3; 2060:8, 18; 2061:7, 20; 2062:8, 11; 2064:20, 22; 2065:8, 18; 2066:2; 2067:18; 2068:12; 2069:20; 2090:3; 2093:18, 24, 25; 2094:2, 5, 6, 7 cost-based [1] 2091:3 costing [2] 1947:15; 2042:21 costly [3] 1961:19; 2047:1; 2048:10 costs [43] 1939:13; 1942:22; 1943:24; 1944:10; 1953:4; 1958:6; 1960:5; 1967:21, 24, 25; 1980:13, 19, 20, 24; 1989:14, 17, 24; 1990:5; 1992:1, 2, 13, 18; 1993:9; 2041:23; 2042:4, 7; 2043:2, 20, 21, 28; 2044:12, 18, 25; 2055:2; 2060:8; 2061:8; 2065:16; 2066:9; 2068:6, 7; 2069:8; 2094:2, 4 could [30] 1941:9, 10; 1943:23; 1954:28; 1958:5; 1973:7; 1978:20; 1978:14; 1980:2; 1981:1; 1985:15; 1986:23; 1990:10, 13; 2041:25; 2042:12, 22; 2046:7; 2048:8; 2061:22; 2058:14; 2057:5, 24, 25; 2058:1; 2060:11; 2064:4, 10; 2068:22 couldn't [3] 1952:4, 6; 1973:1 country [5] 1989:19; 1991:14; 1982:24; 1983:2; 2062:22 couple [4] 1983:20; 2084:14; 2082:11; 2083:14 course [8] 1958:14; 1959:13; 1970:9; 1973:4; 2089:18 courts [1] 1971:22 cover [2] 1985:8; 2085:18 covering [1] 2084:12 covers [1] 1947:5 cox [10] 1937:14, 21; 2058:12, 14, 17, 18; 2063:18; 2083:13, 15; 2094:9 cream [8] 1950:24; 1952:5, 6; 1998:20, 21, 24, 25; 1988:23 create [1] 1972:21 created [1] 1951:25 creates [1] 1966:21 creek [1] 1939:16 criteria [9] 1979:8, 12; 2048:7; 2061:8; 2063:10 criticism [2] 2053:8; 2054:15 criticisms [3] 1986:8; 1952:4; 2051:7 criticize [1] 2068:22 criticized [1] 2053:12 critique [1] 1948:23 cross [12] 1937:13, 14, 19, 20, 21; 2041:13, 17; 2058:16; 2068:14, 16; 2082:13; 2083:12 cross-subsidies [1] 1989:11 cross-subsidy [1] 1989:10 currency [1] 2057:18 current [9] 1957:14; 1959:12; 1988:22; 1988:5; 1990:5; 2062:21, 24; 2083:2 currently [1] 1980:8 curve [1] 1972:5 customer [17] 1940:5; 1943:7, 9, 10; 1944:15; 1948:10, 21; 1948:19; 1949:4; 1988:7; 1974:25; 1980:9; 1981:11; 2045:2; 2059:1; 2082:16, 17 customers [36] 1941:11, 15, 24; 1943:17, 23, 24; 1944:20; 1945:3, 4, 8, 12, 20, 21; 1951:12; 1953:24; 1966:18; 1968:2; 1970:11; 1975:2, 13; 1980:13; 1989:21; 2045:4; 2058:4; 2065:7, 8, 11, 13, 15, 16, 17, 20, 23; 2066:2 cut [5] 1947:11; 1971:7; 2059:10; 2062:3; 2064:10 cuts [1] 2064:17 cutting [1] 1990:14	deceit [1] 1986:22 decide [4] 1958:3, 8; 1982:18; 2061:14 decided [2] 1954:13; 1956:14 decides [1] 1974:1 deciding [1] 1971:22 decision [7] 1955:11; 1970:22; 1987:24; 1989:17; 2061:16; 2064:4; 2067:11 decisions [3] 1980:8; 2044:6 decreased [3] 1952:14, 16, 19 default [3] 2054:17; 2055:22 define [4] 2045:15; 2061:18; 2083:24, 25 definition [1] 1943:3; 1988:4; 2054:7 definitions [4] 2056:1 degree [5] 1959:18; 1961:24; 1969:18; 1970:20; 1972:7 delay [1] 1989:19 deliberately [1] 2059:2 deliberations [1] 1955:19 demand [4] 1982:1, 3; 2048:8, 18 demonstrate [1] 2055:17 demonstrates [1] 1987:20 density [8] 1990:21; 1991:5, 10; 2045:14, 15; 2053:10, 22; 2064:6 depend [1] 1953:22 depends [2] 1954:5; 2044:14 depicts [1] 1988:1 deploy [5] 1981:4, 25; 2080:24, 25, 2081:4 deployed [3] 1981:8; 2048:15; 2049:2 deploying [2] 1981:14, 22 deployment [2] 2047:16; 2048:25; 2063:7 deploys [3] 1981:2, 12; 1982:11 described [2] 2044:24; 2045:21 describes [2] 1965:18; 1972:2 design [12] 1979:8, 12; 1984:20; 1985:19; 1987:5; 1990:10; 1992:5; 2043:15; 2047:25; 2048:8, 13; 2062:23 designate [1] 1941:3 designated [1] 1979:25 designates [1] 1979:22 designated [5] 1980:8; 1982:6; 2046:18, 21, 22 designs [1] 2089:2 desired [1] 1961:14 detail [1] 1990:18 details [1] 2044:14 determination [1] 1938:5 determine [12] 1942:10, 20; 1955:22, 25; 1962:9; 2041:23; 2043:3; 2044:15; 2048:12; 2047:3; 2055:20; 2088:8 determined [2] 1955:8; 2091:9 determines [3] 1941:23; 1942:3; 1956:21 determining [3] 2042:10; 2044:12; 2047:12 developed [1] 1983:1 development [1] 2062:3 dial [1] 1959:8 didn't [4] 1947:13; 1948:12; 1957:2; 2062:9 die [1] 1988:18 differ [1] 2058:3 difference [17] 1942:2, 9; 1944:15;
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<p>1948:12; 1988:13; 1989:13; 2047:25; 2048:11, 14, 15; 2051:8, 7, 20, 21; 2088:1, 8 differences [5] 2058:21; 2080:8, 8, 17 different [6] 1991:12; 2044:25; 2045:11; 2050:25; 2051:4; 2060:13 differently [1] 1953:4 difficult [2] 1957:19; 1972:1 difficulty [5] 1944:4, 6; 2050:1; 2091:24 digital [2] 1988:24; 2050:4 dilapidated [1] 1982:22 dimension [1] 1991:17 direct [8] 1937:8, 17; 1978:13; 1979:11; 2042:22; 2051:8; 2065:8, 13 directed [1] 2058:19 direction [4] 1982:16; 1970:2, 4; 1971:18 disadvantage [2] 1940:10; 1948:11; 1951:21 disadvantaged [2] 1945:12; 1947:14 disaggregate [1] 2090:9 disaggregated [3] 2088:16; 2091:1; 2092:2 disappear [5] 1952:21; 1984:4; 2044:2, 8; 2090:24 disappear [1] 1949:8 disappearing [1] 1974:21 disappears [1] 1982:3 disconnected [1] 2048:20 discourage [1] 1951:7 discouraged [2] 1989:8, 8 discuss [3] 1978:19; 1991:22; 2088:5 discussion [4] 1943:1; 1983:14; 2080:4, 18 disguise [1] 1954:18 distance [12] 1939:7; 1951:10; 1982:29; 1984:24; 1985:3; 1971:20; 1975:13; 1979:13; 1987:3; 1991:3; 2050:3; 2057:18 distinction [1] 1959:8 distinguish [1] 1988:20 distortion [6] 1943:22; 1945:20, 23; 1948:7; 1982:18 distortions [3] 1945:17, 18; 1982:13 distribute [1] 2044:24 distribution [13] 1954:23; 1985:19; 1990:16; 1991:12; 1992:5, 6; 2048:2; 2049:8; 2052:24; 2053:9; 2058:22; 2082:2; 2093:3 dju-2 [1] 1979:11 dic [12] 1980:25; 1991:3, 4, 7, 13, 25; 1982:11, 19; 2050:17; 2052:19; 2088:1, 9 dics [6] 1982:17; 1987:3; 2050:21, 23, 24 docket [1] 1935:4 doctor [16] 1978:15, 16, 25; 1977:17; 1978:8; 1979:17, 22; 1987:18; 1993:11, 12; 2041:21; 2045:7; 2051:24; 2056:13; 2060:4; 2084:13 document [7] 1988:1, 20, 22; 1987:7; 2052:2, 4; 2088:7 documentation [1] 1979:10 documents [2] 1983:19; 1985:4 doesn't [17] 1939:15; 1943:20; 1944:23; 1945:5, 16, 18; 1953:22;</p>	<p>1960:24; 1971:14, 17; 1972:20; 1974:1; 1982:18; 2089:8, 9; 2093:18 doing [7] 1940:1; 1943:18; 1945:8; 1953:3; 1955:5; 1983:19; 1989:3 dollar [2] 1941:22; 1953:10 dollar-for-dollar [1] 2088:11 dollars [7] 1949:9; 1970:14; 1973:12, 15, 23; 1974:5, 15 don't [84] 1939:14; 1940:24; 1945:10, 24; 1948:2, 6, 22; 1949:18; 1950:2; 1951:3; 1952:23; 1953:18, 20; 1954:2; 1955:3, 4; 1956:5, 12, 18; 1958:8, 18; 1959:18; 1960:8, 17; 1961:13, 18, 24; 1962:2, 15; 1963:20; 1964:4, 8, 18; 1965:4; 1966:5; 1968:1, 13; 1969:18; 1971:11; 1972:1; 1977:16; 1984:8; 1988:1, 2; 2042:5; 2047:5; 2049:13; 2051:1, 4, 20; 2054:9, 12, 22, 23; 2055:15; 2058:8; 2060:23; 2061:7; 2064:8; 2088:10; 2091:17, 24, 25 done [16] 1943:14; 1950:7; 1953:25; 1956:7, 18, 22; 1957:9; 1960:11; 1968:9, 18, 19; 1972:8; 2044:5; 2045:10; 2087:20; 2088:18 door [2] 1981:16; 1988:1 down [9] 1988:12; 1970:8; 1978:14; 1978:21; 1983:10; 2061:4; 2064:11; 2089:11; 2090:9 downtown [3] 1941:9; 1961:12; 1964:4 downward [1] 2058:8 dozens [1] 2084:7 dramatically [1] 1973:11 drastically [3] 1978:24; 1980:20; 1982:23 draw [2] 1947:8; 1975:1 drive [1] 1988:24 driven [1] 1957:15 driver [2] 2061:5, 7 drop [8] 1980:10; 2051:8, 9, 15, 19; 2054:21; 2055:1, 10 dropped [1] 1989:9 due [2] 1988:13; 2082:2 duffy-deno [1] 2080:4 duly [2] 1978:12; 2085:7 duplication [2] 1991:18, 19 dying [1] 1971:25</p>	<p>efficient [7] 1938:10; 1963:19; 1988:14; 1988:20; 2043:28; 2044:4, 7 efforts [1] 1900:7 either [4] 1954:24; 1974:23; 1982:4; 2088:9 electronics [4] 1982:3, 7; 2049:10, 19 element [1] 2088:7 elements [1] 1989:2 eleventh [1] 2089:7 else [6] 1940:18; 1948:4, 17, 23; 1950:8; 1967:14; 1968:5; 2054:18; 2082:7 elsewhere [1] 1982:8 emphasize [1] 2084:15 employ [1] 1981:1 emulate [1] 1967:3 enable [2] 1980:11; 1982:8 encompass [1] 1991:18 encourage [1] 1980:12 end [6] 1940:12; 1970:11; 1973:4; 1974:23; 1975:2; 1980:18 ended [1] 1973:13 enforce [1] 1951:4 enforceable [1] 1951:5 engineer [1] 1984:19 engineering [12] 1980:7, 10, 18; 1984:16, 20; 1985:5, 6; 1988:11; 1982:22; 2047:20; 2055:18, 23 enough [9] 1947:4; 1958:18; 1982:18; 1989:9; 1982:18; 2056:24; 2057:2; 2085:18; 2088:12 ensues [1] 1942:14 ensure [2] 1948:9; 1957:23 enlar [2] 1967:18; 1972:14 entering [1] 1967:21 entertain [1] 2087:16 entitled [1] 2041:7 entrants [1] 1989:5 environment [2] 2056:19; 2057:21 envisioned [1] 2046:15 equal [7] 1938:11; 1950:20; 1953:18; 1957:24; 1967:5, 9; 2056:3 equality [1] 1980:11 equipment [8] 1980:17; 2048:3, 8, 7, 9; 2058:10 equivalent [2] 1974:19; 2057:4 erode [2] 2084:24; 2085:24 error [2] 2088:11, 14 esplanade [1] 1936:20 essential [1] 1958:22 essentially [4] 1980:16; 1981:13; 2048:10; 2050:19 established [2] 1955:15; 2063:1 establishing [1] 1993:8 establishment [2] 2091:21, 23 estate [1] 1983:1 estimate [2] 1980:1; 2044:18 even [12] 1945:1; 1952:21; 1957:21; 1963:20; 1967:2; 1973:22; 1987:19; 1991:4, 6; 1992:2; 2054:24; 2057:23 evening [5] 1987:18, 20; 2041:19; 2058:18; 2083:14 eventually [2] 1970:18 everglades [1] 1964:2 every [3] 1946:10; 1951:20; 2048:2 everybody [11] 1946:8; 1950:11, 21;</p>	<p>1982:10; 1988:19; 1987:9, 20, 22; 1988:3; 1989:11; 1972:3 everyone [4] 1991:2, 17; 1982:12; 1988:22 everything [2] 1948:23; 1971:14 evidence [3] 2084:2; 2094:18, 21 evil [1] 1948:14 evolution [2] 1988:24; 1991:22 - J - Jive [1] 2085:23 exactly [9] 1939:8; 1948:7; 1963:3; 1965:22; 1970:5; 1971:5; 2056:3; 2063:18; 2084:1 examination [16] 1937:8, 13, 14, 18, 20, 21; 1978:13; 2041:14, 17; 2058:16; 2065:8; 2088:14, 18; 2082:13; 2093:12 examine [1] 2058:8 examined [1] 2080:24 example [12] 1944:10; 1980:5; 1971:24; 1972:25; 1973:13; 1982:2; 1989:1; 1990:25; 1992:18; 2052:24; 2054:20; 2062:4; 2091:18 examples [2] 1980:10; 1988:7 exceed [1] 1946:22 except [5] 1943:4; 1953:2; 1987:13, 20; 1981:19 excerpt [1] 1983:17 excess [2] 1948:18; 2051:16 exchange [18] 1944:8; 1945:13; 1948:10; 1950:20; 1957:24; 1964:13, 18, 19; 1965:4, 8, 18, 19; 1986:12; 1987:10; 1988:5, 7; 1987:22; 1988:12 exchanges [1] 2090:2 excuse [3] 1978:18; 1983:7; 2085:15 excused [1] 1975:25 exhibit [26] 1976:20, 23; 1978:16, 18; 1979:11, 25; 1980:1; 1983:14; 2041:3, 6; 2051:22; 2053:9; 2054:13; 2056:14; 2060:25; 2064:2; 2064:2, 4, 5; 2088:22, 25; 2034:13, 16, 18, 21 exhibits [9] 1938:1; 1993:13; 2041:1; 2083:20, 22, 25; 2085:18; 2084:1; 2084:12 exist [1] 2084:18 existing [2] 1981:20; 2085:5 expect [2] 2042:8; 2085:22 expenses [1] 1980:8 experience [2] 1989:22; 2043:3 explain [4] 1983:8; 1982:18; 2045:8, 10 explains [1] 1989:12 explanation [1] 1954:19 explicit [5] 1954:1; 2085:2; 2088:7; 2088:2; 2093:7 explicitly [2] 2087:13, 14 extend [1] 1991:13 extended [3] 1991:19; 2009:9, 18 extending [1] 2089:8 extent [8] 1955:22; 1966:20; 1978:2; 1984:9; 2043:5; 2048:25; 2055:25; 2084:12; 2088:4 external [3] 1990:2; 2043:16, 17 extra [1] 1975:2 eyes [1] 2084:7</p>
Elite Concordia Utility - CONCORDS	- E -		- F -

<p>f [1] 1936:15 face [2] 2057:9; 2058:8 faces [1] 1990:14 facilitate [1] 1990:19 facilities [5] 1983:11; 1988:25; 1989:3; 1991:3; 2058:22 facilities-based [1] \ \ :9:5 facility-based [2] 2055:8, 19 fact [13] 1940:18; 1945:4, 13; 1947:10; 1949:25; 1951:19; 1967:25; 1978:23; 1991:5; 1992:13; 2045:19; 2048:9; 2052:20 factor [1] 2061:11 factors [1] 1990:24 facts [1] 1955:5 falls [2] 1982:20; 2052:20 failure [1] 1981:10 fair [7] 1948:11; 1967:2, 4, 8; 1983:24; 1990:25; 2054:18 fairly [1] 1982:3 fall [2] 1940:4; 1983:10 falls [1] 1991:5 familiar [2] 1955:8; 2063:4, 12 fancy [1] 2092:4 far [2] 1948:8; 1982:18 fast [2] 2091:18, 19 faurol [1] 1936:21 fax [1] 1988:14 fax [2] 1942:3; 1943:1; 1954:22; 1955:1, 5, 17; 1956:7; 1971:21; 1972:25; 1981:16; 2047:18; 2048:7; 2057:16; 2062:17; 2063:2, 13; 2087:5, 7, 11, 14, 23 fax's [8] 1943:19; 1988:4; 2048:14; 2047:21; 2063:8, 9 features [2] 2084:22; 2085:9 fee [1] 1988:15 feel [2] 1941:15; 2091:24 feet [14] 1948:13; 1979:14; 1987:3; 1991:17; 2001:8, 9, 16; 2099:1, 2, 5, 8, 18; 2091:18, 17 few [10] 1972:12; 1977:13; 1979:24; 1981:3, 7, 19; 1982:11; 1992:7, 8; 2086:20 fewer [1] 1985:23 fiber [1] 1981:25 fiber-optic [2] 1982:4; 2052:18 fictitious [1] 1988:1 field [2] 1967:13; 1988:8 figures [3] 1996:10; 2093:19 file [3] 1979:1; 2065:13; 2093:23 filed [9] 1978:18, 20; 1977:18; 1978:6; 1981:15; 1984:8; 1988:18; 2087:11; 2094:1 filing [2] 1981:18; 2054:8 filings [1] 2082:22 fill [1] 2052:19 final [2] 1988:20; 1987:10 finality [1] 1971:22 finally [1] 1989:18 find [6] 1952:3; 1954:14; 1958:12; 2046:3; 2054:5; 2056:7 finding [1] 2048:10 fine [4] 1940:14; 1941:17; 1991:1; 2064:23 firm [8] 1938:1, 2, 12, 20, 23; 1989:8;</p>	<p>2051:24; 2058:2 firms [2] 1990:9; 2058:24 first [14] 1948:28; 1954:10; 1980:2; 1982:1; 1984:21; 1978:16; 1978:18; 1981:10; 1985:8; 1988:22; 2057:24; 2084:18; 2085:1; 2087:9 fits [2] 1988:5, 19 five [5] 1970:24; 1973:4; 2064:10, 12, 15 fix [1] 1970:17 fixed [1] 2062:1 flash [1] 1971:6 flat [1] 1991:9 flaws [1] 1980:10 flexibility [1] 1942:15 flexible [2] 2096:24; 2058:4 flexibly [1] 2057:14 florida [42] 1938:1, 7, 20; 1950:17; 1952:2, 3; 1958:5, 6, 8, 10, 15, 18, 21, 27; 1957:1, 11; 1962:24; 1963:1, 7, 8, 14, 16, 17; 1988:18, 19; 1989:19; 1983:2, 6, 7; 1987:19, 22; 1990:12; 1993:9; 2045:12, 17; 2050:10; 2058:2; 2062:13, 15; 2064:18; 2065:14; 2089:13 flowing [1] 1944:8 focus [2] 1957:4, 7 focused [1] 1982:11 folks [4] 1948:9; 1983:6, 8; 1985:10 follow-up [1] 1982:8 following [1] 2090:25 follows [4] 1938:2; 1978:12; 1985:22; 2065:7 foot [8] 1981:11; 1982:15; 1987:7; 2061:12, 13; 2062:14, 19 footing [2] 1987:5, 9 forces [1] 1989:1 form [1] 1993:7 forms [3] 1980:3; 2043:8; 2044:8 formula [1] 1982:18 forth [1] 2049:12 forward [4] 1940:21, 22; 1973:11; 2064:21 forward-looking [8] 1981:9; 2043:25; 2044:17; 2048:7; 2094:2 found [2] 1980:8; 2085:14 four [5] 1982:24; 1979:24; 1973:4; 1984:8, 11 fourth [1] 2083:2 fraction [1] 2053:21 francis [2] 1937:7; 1978:10 frank [1] 1978:3 free [1] 1940:13 from [43] 1839:2, 4; 1943:5; 1945:5; 1947:8, 22; 1948:17, 18; 1949:5; 1951:8; 1952:13; 1953:12; 1964:8; 1955:18; 1988:18; 1957:14; 1980:19; 1982:23; 1983:7, 14; 1988:24; 1989:4; 1978:1; 1979:13; 1983:9; 1985:17; 1988:1, 54; 1987:12; 1989:5, 7, 9; 1991:23; 2044:23; 2048:18; 2056:4; 2057:18; 2089:1, 8; 2061:25; 2088:9 front [1] 1983:18 fully [1] 2048:18 fun [1] 1948:2 fund [53] 1941:5; 1942:3; 1944:7;</p>	<p>1945:16; 1947:8, 8, 22; 1948:8, 17, 20; 1949:8, 14, 21; 1950:5, 10; 1952:19; 1953:10, 18; 1956:7, 8, 11, 22; 1957:2, 14, 18; 1958:3, 3, 8; 1959:12; 1962:4, 6, 8, 12; 1968:22; 1988:6, 10; 1971:13; 1974:6, 23, 26; 1978:1; 1987:23; 1988:18, 19; 2044:19, 23; 2047:4; 2085:3; 2088:8; 2091:21 fundamental [1] 1980:23 funded [2] 1985:25; 1988:23; 2088:8 funding [4] 2041:24; 2042:4; 2047:12; 2088:10 funds [1] 2044:24 further [4] 1991:7; 2083:21; 2083:8, 9 future [1] 1982:1; 1988:7, 8, 10, 12, 14, 16; 2048:9; 2048:3; 2057:8, 9 - G - g [1] 193:1 game [1] 1971:23 games [1] 1947:23 garcia [30] 1936:15; 1938:8, 20; 1945:9; 1948:2; 1958:20, 25; 1959:3; 1960:1, 13, 25; 1961:2, 10; 1962:15; 1963:9, 15, 24; 1964:8; 1967:24; 1968:3, 15; 1969:8, 15; 1970:5; 1971:4, 17; 1972:11, 18; 1973:9, 21; 1974:11, 14; 1975:4, 8, 17; 1989:4; 2064:7, 17, 22 gates [32] 1938:23; 1940:1, 3, 4, 5; 1947:4, 6, 8, 10, 11, 15, 18; 1948:8, 8, 10; 1949:4, 16; 1950:7; 1959:4, 22; 1959:17; 1962:5, 17, 19; 1963:4, 5, 10, 12, 14; 1968:24; 1970:10 gates' [2] 1940:11; 1962:24 gauge [1] 2058:8 gazillion [1] 1948:4 general [4] 1940:8; 1954:8; 2052:18; 2058:18 generally [9] 1953:13, 14; 1972:5; 1984:15, 19; 1985:5; 2048:24; 2047:20; 2058:25 generate [2] 1944:21; 2085:17 generated [4] 1989:17; 2085:15; 2086:9; 2092:22 generates [1] 1943:15 gentlemen [3] 2041:19; 2058:18; 2064:8 geographic [6] 2044:20; 2057:11; 2088:5, 20; 2089:17 gets [10] 1940:12; 1948:17; 1988:18; 1989:23; 1990:2; 1983:11; 1988:21; 1974:20; 2044:19 getting [10] 1939:22; 1948:9; 1962:22; 1963:22; 1964:10; 1970:18; 1971:8; 1973:8, 16; 2054:23 gillian [7] 2064:12; 2086:22; 2087:22; 2088:8, 8, 9, 10 gino [1] 1977:19 give [10] 1942:14; 1948:15; 1950:3; 1961:8; 1955:16; 1963:10; 1969:1, 2; 2045:7; 2084:9 given [2] 1982:25; 1990:13 giving [2] 1944:25; 1963:1</p>	<p>glad [2] 2087:18; 2089:22 glare [1] 2084:7 goes [4] 1948:4, 19; 1989:24; 1987:2 going [76] 1939:7, 20, 21; 1942:17, 18; 1943:23, 25; 1944:21, 23, 24; 1947:8, 18, 22; 1948:8; 1949:5, 6, 8, 12, 16; 1950:25; 1951:12; 1952:19, 25; 1954:3; 1955:21, 22; 1958:7; 1959:13; 1960:10, 11; 1961:11, 14, 15, 16, 17, 18; 1962:8; 1963:12; 1964:19; 1965:20; 1968:22, 23; 1970:1, 3, 4, 12, 14; 1971:23; 1972:25; 1973:10; 1974:14, 20; 1975:3, 8, 12, 14; 1983:1, 17, 18; 1984:3; 1990:18; 1991:14; 2050:23; 2053:2; 2056:7; 2057:9; 2062:4; 2063:9; 2085:20; 2090:14; 2093:4, 5, 23 good [12] 1954:8, 13; 1989:20, 25; 1970:25; 1972:4; 1987:18; 2041:19; 2044:8; 2088:18; 2093:14 got [14] 1959:4, 10; 1961:14; 1968:25; 1989:2, 20, 21, 23; 1982:5; 1984:5; 2057:2, 18; 2058:7; 2089:4 government [2] 1962:24; 1974:20 grade [11] 2049:11, 23; 2089:20, 22, 24; 2061:4, 22; 2062:5, 13; 2063:3, 4 grandmother [2] 1939:15; 1944:22 granted [1] 1947:9 graver [1] 1957:6 great [1] 1990:18 greater [8] 1968:21; 2050:10, 16, 20; 2055:14 greedy [1] 2048:9 green's [1] 1970:22 ground [3] 1981:14; 1982:8; 2064:13 grouped [1] 2089:19 grow [1] 2057:25 growth [6] 2057:10, 11, 14, 19, 20; 2058:3 gte [22] 1970:13; 1973:12, 18, 19; 1987:21; 1990:8, 10, 12; 1992:1; 2044:3; 2050:9; 2053:16, 20; 2054:8, 9; 2056:2, 10, 19; 2057:4, 5, 18; 2062:21 gte's [5] 1968:16; 1990:10; 2043:12, 20; 2055:13 gteff [1] 1978:11 guaranteeing [4] 1981:21, 22, 23 guepe [5] 2084:12; 2088:22; 2087:22; 2088:8, 11 guess [11] 1940:19; 1941:7; 1951:3; 1955:2, 4; 1958:13; 2048:20; 2051:23; 2052:4; 2053:7; 2059:18 guided [1] 1984:15 guideline [3] 1985:17, 19; 2047:21 guidelines [2] 1985:18; 2047:18 gun [1] 1988:17 guy [2] 1989:21; 1981:4; 1984:4 guys [2] 1963:22; 1971:20 - H - hal [24] 1978:20, 23; 1979:10, 12; 1980:24; 1987:20; 2041:7; 2043:10; 2045:2; 2050:9, 15; 2051:7, 23; 2052:8,</p>
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<p>14, 16; 2054:11, 15, 20; 2055:7, 10, 18; 2058:22; 2059:1</p> <p>half's [1] 1981:10</p> <p>half-50s [1] 2041:10</p> <p>half [5] 1970:14; 1973:12, 15, 23; 1974:5, 15; 1990:1, 10</p> <p>hand [2] 1954:9; 2055:21</p> <p>handbook [3] 1983:16; 1985:7; 1988:11</p> <p>handle [3] 2057:19; 2060:2; 2061:24</p> <p>hands [1] 1940:16</p> <p>happen [8] 1947:10; 1949:5, 14; 1952:19; 1972:3; 1974:9; 1975:12; 1988:14</p> <p>happens [4] 1974:18, 24; 2047:22; 2057:15</p> <p>harass [1] 1971:4</p> <p>hard [1] 1951:14</p> <p>harder [1] 1972:12</p> <p>hatch [10] 1937:20; 1971:20; 1979:20; 2058:9, 10; 2062:9, 11, 14; 2063:8, 11</p> <p>hatfield [37] 1979:3; 1977:4, 10; 1978:9; 1979:16; 1980:5; 1981:2, 8, 12, 22; 1982:10, 18; 1983:11; 1986:9; 1987:8, 20; 1988:1, 6, 9; 1989:23; 1990:5, 7, 8, 20; 1991:23; 1992:12; 2043:13, 18, 20; 2049:13, 14; 2051:1, 3; 2053:9; 2054:2, 4; 2055:17</p> <p>hauling [1] 1959:23</p> <p>haven't [1] 1969:19</p> <p>having [10] 1949:24; 1952:18; 1970:23; 1976:12; 1982:14; 2060:14; 2065:6; 2088:18, 25</p> <p>head [1] 1968:17</p> <p>heading [1] 1970:6</p> <p>hear [3] 1970:13; 1984:1, 2</p> <p>heard [6] 1955:12; 1982:20; 1983:14, 20; 1990:18; 2050:1</p> <p>hearing [4] 1936:1; 1983:20; 1988:3; 2088:25</p> <p>hearings [2] 1990:23; 1995:10</p> <p>heavy [1] 2055:9</p> <p>help [2] 1949:17; 2061:15</p> <p>helpful [2] 1984:2, 25</p> <p>helps [3] 1943:12; 1955:20; 1986:16</p> <p>henry [10] 1937:19; 2064:13, 14, 20; 2088:15, 17, 18; 2092:7; 2094:17, 22</p> <p>her [3] 1939:21; 1944:24, 25</p> <p>here [26] 1942:10; 1945:7; 1947:7; 1949:14; 1950:24; 1956:19; 1960:22; 1991:4; 1998:16; 1970:10, 18; 1984:19; 2048:12, 21; 2052:29; 2054:2; 2056:11; 2059:21; 2062:12, 15; 2064:13, 16, 23; 2089:18; 2090:2; 2092:24</p> <p>heretofore [1] 1938:23</p> <p>hertz [1] 2063:3</p> <p>hesitate [1] 1972:24</p> <p>hey [1] 1999:1</p> <p>high [24] 1943:23; 1945:3, 20; 1946:11, 17, 21; 1947:4; 1948:7; 1950:11, 13; 1951:12; 1952:18; 1953:9; 1957:2; 1959:2, 8, 11, 13, 14; 1960:8; 1962:3; 1988:1; 1970:11</p> <p>higher [4] 1940:2, 3; 1982:9; 2056:1</p> <p>highest [4] 1951:8; 2053:10, 21; 2054:8</p>	<p>highly [1] 1968:19</p> <p>him [7] 1939:10; 1940:7, 12; 1949:4; 1959:16; 1979:20; 2064:13</p> <p>himself [1] 1940:3</p> <p>hip [1] 1969:4</p> <p>hips [1] 1967:8</p> <p>his [19] 1939:4, 23; 1940:4, 9; 1958:9; 1968:17; 1977:14; 1983:18, 21; 1994:11, 12; 1996:1, 2, 7, 11, 16; 2064:10, 17; 2084:1</p> <p>historic [2] 2043:20, 21</p> <p>hold [1] 1961:8</p> <p>home [2] 1939:12, 24</p> <p>honor [3] 1976:3; 1983:23; 1993:12</p> <p>hope [2] 2064:22; 2068:12</p> <p>hopefully [1] 2086:20</p> <p>hour [1] 2064:9</p> <p>house [4] 1959:21; 1960:20; 1965:1</p> <p>households [1] 1968:9</p> <p>houses [1] 1980:11</p> <p>housing [4] 1982:20, 22; 1983:8; 2052:20</p> <p>however [2] 2042:19; 2053:24</p> <p>hurt [1] 1961:25</p> <p>hut [3] 1959:4, 6; 1963:16</p> <p>hybrid [1] 2044:22</p> <p>hypothetical [2] 1946:21; 2047:7</p>	<p>improvement [1] 1971:12</p> <p>inadequate [4] 1957:15; 1969:18, 19; 1992:5</p> <p>inappropriate [3] 1981:8; 2042:15; 2052:19</p> <p>inc [1] 2089:3</p> <p>incarnation [1] 1991:23</p> <p>incentive [2] 1957:25; 1976:9</p> <p>incentives [2] 1990:14; 2044:4</p> <p>incentivizing [1] 1945:6</p> <p>include [2] 1977:3; 1978:23</p> <p>included [1] 1979:3</p> <p>includes [1] 1993:13</p> <p>including [2] 2049:17; 2087:25</p> <p>income [7] 1950:8; 1957:3, 17, 22; 1958:11, 13, 14</p> <p>inconceivable [1] 1990:11</p> <p>inconsistent [2] 2087:2; 2089:3</p> <p>incorporated [1] 2089:4</p> <p>increase [7] 1942:17; 1953:19, 20; 1990:24; 1991:15; 1982:17; 2047:23</p> <p>increased [4] 1952:24; 1953:3; 1982:13; 2086:4</p> <p>increases [3] 1989:10; 2088:10; 2092:21</p> <p>increasing [1] 2088:5</p> <p>incremental [3] 1971:9; 1973:16; 1979:4</p> <p>incrementally [1] 1971:12</p> <p>incumbent [4] 1964:13; 1967:10; 1989:7; 2090:16</p> <p>incur [1] 2042:8</p> <p>incurs [1] 1990:8</p> <p>indeed [3] 1985:13, 14; 2087:17</p> <p>indicate [3] 1941:5; 2046:7; 2056:23</p> <p>indicated [3] 2041:4; 2051:9, 17</p> <p>indicates [1] 1978:22</p> <p>individuals [2] 1950:4; 1957:3</p> <p>industry [3] 1960:14; 1980:14; 1984:20</p> <p>inefficient [2] 1958:17; 1990:13</p> <p>inequity [1] 1972:21</p> <p>information [2] 1990:2; 2054:16</p> <p>initial [1] 1991:23</p> <p>input [5] 1980:3; 1992:15, 21; 2055:19; 2056:1</p> <p>inputs [10] 1962:15, 25; 2053:20; 2055:2, 22; 2056:7, 9, 10, 11</p> <p>inserted [8] 1937:10, 12, 18; 1975:21; 1983:16; 2041:16; 2066:3, 4</p> <p>installation [5] 2052:22; 2060:9, 19; 2061:5; 2062:8</p> <p>installations [1] 2052:11</p> <p>installed [4] 2055:9, 13; 2056:2</p> <p>installing [1] 1991:18</p> <p>instead [2] 1970:15; 2055:23</p> <p>insufficient [3] 1980:13; 2052:8, 17</p> <p>intended [3] 2048:23; 2055:21; 2059:24</p> <p>interconnection [1] 2069:2</p> <p>interested [1] 1966:17</p> <p>interesting [3] 1988:16; 1991:9; 1992:20</p> <p>interestingly [1] 1989:9</p> <p>interface [1] 1985:19</p> <p>interfaced [1] 1985:19</p> <p>internet [1] 1959:13</p> <p>intra-office [1] 1980:20</p>	<p>interpreted [1] 2048:18</p> <p>interpreting [1] 1990:21</p> <p>interstate [1] 1956:1</p> <p>intervals [1] 2052:22</p> <p>into [30] 1940:16; 1946:3; 1949:12; 1950:18; 1956:5, 19; 1957:17; 1958:1; 1961:12; 1968:22; 1969:9; 1971:22; 1973:19; 1975:21, 23; 1982:16; 1990:18, 18, 25; 1993:17; 2052:14; 2053:20; 2055:3; 2056:10; 2064:2; 2066:3; 2069:19; 2094:16, 21</p> <p>intrastate [1] 2082:25</p> <p>intrastate [1] 1965:2</p> <p>intro [1] 2064:18</p> <p>introduced [1] 1950:18</p> <p>introduction [1] 2056:23</p> <p>investment [7] 1978:20, 21, 23, 25; 1979:3; 1980:16; 2048:24</p> <p>investments [2] 1990:8; 2049:2</p> <p>involved [2] 1980:4; 2091:25</p> <p>involves [1] 1987:24</p> <p>iron [1] 1948:7</p> <p>isdn [2] 2046:20, 22</p> <p>isn't [1] 1945:12; 1948:2, 14; 1948:11; 2049:16; 2050:18; 2051:11, 15; 2056:4; 2059:12; 2091:7</p> <p>issue [18] 1945:7; 1980:22; 1984:5, 21; 1986:22; 1989:25; 2041:9; 2043:15; 2050:1; 2061:1; 2084:15, 19; 2085:13; 2091:4, 15</p> <p>issues [5] 1983:25; 1984:3; 2043:15; 2060:9; 2067:13</p> <p>item [3] 1975:11; 2060:25; 2061:25</p> <p>items [1] 2060:24</p> <p>itself [3] 1969:14; 1972:13; 2050:6</p>
- I -			
<p>in [1] 1968:19</p> <p>I'm [5] 1939:11; 1944:1; 1948:2, 7; 1949:5, 18; 1951:11; 1955:19; 1959:7, 21; 1960:20; 1991:14, 15, 18, 21, 22; 1995:6; 1996:15; 1967:21; 1968:7, 14; 1989:4; 1971:19; 1973:12; 1974:12; 1983:17; 1990:17; 2041:19; 2042:22, 23; 2043:17; 2048:11, 19; 2050:12, 13, 14; 2051:5; 2052:3, 6; 2053:9; 2054:6, 23; 2061:10; 2063:4, 14, 15, 22; 2064:12; 2069:10</p> <p>I've [2] 1972:18; 2058:7</p> <p>io [1] 1979:2</p> <p>idea [1] 2083:3</p> <p>ideally [1] 2082:8</p> <p>identification [1] 2084:6</p> <p>identified [3] 2063:24; 2084:2, 3</p> <p>identify [4] 2041:2, 9; 2086:1, 3</p> <p>ignored [1] 1980:15</p> <p>illeg [7] 1951:20; 1964:7; 1965:23; 1967:14; 2090:15, 16, 31</p> <p>illegals [4] 1948:9; 1964:17; 2079:2; 2082:21</p> <p>illustrates [1] 2057:17</p> <p>impede [3] 2046:16; 2047:19; 2048:2, 5, 7, 14; 2063:18; 2063:8</p> <p>implement [2] 1991:11; 2088:16</p> <p>implementation [1] 2048:17</p> <p>implicit [7] 1956:9; 1959:11; 1959:15; 2084:23; 2085:1; 2086:11; 2088:1</p> <p>implied [1] 2048:22</p> <p>important [3] 1981:18; 2047:16; 2053:25</p> <p>importantly [2] 1988:16; 2085:4</p> <p>improperly [1] 1988:24</p>			
- J -			
<p>interpret [1] 2048:18</p> <p>interpreting [1] 1990:21</p> <p>interstate [1] 1956:1</p> <p>intervals [1] 2052:22</p> <p>into [30] 1940:16; 1946:3; 1949:12; 1950:18; 1956:5, 19; 1957:17; 1958:1; 1961:12; 1968:22; 1969:9; 1971:22; 1973:19; 1975:21, 23; 1982:16; 1990:18, 18, 25; 1993:17; 2052:14; 2053:20; 2055:3; 2056:10; 2064:2; 2066:3; 2069:19; 2094:16, 21</p> <p>intrastate [1] 2082:25</p> <p>intrastate [1] 1965:2</p> <p>intro [1] 2064:18</p> <p>introduced [1] 1950:18</p> <p>introduction [1] 2056:23</p> <p>investment [7] 1978:20, 21, 23, 25; 1979:3; 1980:16; 2048:24</p> <p>investments [2] 1990:8; 2049:2</p> <p>involved [2] 1980:4; 2091:25</p> <p>involves [1] 1987:24</p> <p>iron [1] 1948:7</p> <p>isdn [2] 2046:20, 22</p> <p>isn't [1] 1945:12; 1948:2, 14; 1948:11; 2049:16; 2050:18; 2051:11, 15; 2056:4; 2059:12; 2091:7</p> <p>issue [18] 1945:7; 1980:22; 1984:5, 21; 1986:22; 1989:25; 2041:9; 2043:15; 2050:1; 2061:1; 2084:15, 19; 2085:13; 2091:4, 15</p> <p>issues [5] 1983:25; 1984:3; 2043:15; 2060:9; 2067:13</p> <p>item [3] 1975:11; 2060:25; 2061:25</p> <p>items [1] 2060:24</p> <p>itself [3] 1969:14; 1972:13; 2050:6</p>			
<p>in [1] 1968:19</p> <p>I'm [5] 1939:11; 1944:1; 1948:2, 7; 1949:5, 18; 1951:11; 1955:19; 1959:7, 21; 1960:20; 1991:14, 15, 18, 21, 22; 1995:6; 1996:15; 1967:21; 1968:7, 14; 1989:4; 1971:19; 1973:12; 1974:12; 1983:17; 1990:17; 2041:19; 2042:22, 23; 2043:17; 2048:11, 19; 2050:12, 13, 14; 2051:5; 2052:3, 6; 2053:9; 2054:6, 23; 2061:10; 2063:4, 14, 15, 22; 2064:12; 2069:10</p> <p>I've [2] 1972:18; 2058:7</p> <p>io [1] 1979:2</p> <p>idea [1] 2083:3</p> <p>ideally [1] 2082:8</p> <p>identification [1] 2084:6</p> <p>identified [3] 2063:24; 2084:2, 3</p> <p>identify [4] 2041:2, 9; 2086:1, 3</p> <p>ignored [1] 1980:15</p> <p>illeg [7] 1951:20; 1964:7; 1965:23; 1967:14; 2090:15, 16, 31</p> <p>illegals [4] 1948:9; 1964:17; 2079:2; 2082:21</p> <p>illustrates [1] 2057:17</p> <p>impede [3] 2046:16; 2047:19; 2048:2, 5, 7, 14; 2063:18; 2063:8</p> <p>implement [2] 1991:11; 2088:16</p> <p>implementation [1] 2048:17</p> <p>implicit [7] 1956:9; 1959:11; 1959:15; 2084:23; 2085:1; 2086:11; 2088:1</p> <p>implied [1] 2048:22</p> <p>important [3] 1981:18; 2047:16; 2053:25</p> <p>importantly [2] 1988:16; 2085:4</p> <p>improperly [1] 1988:24</p>			
<p>interpret [1] 2048:18</p> <p>interpreting [1] 1990:21</p> <p>interstate [1] 1956:1</p> <p>intervals [1] 2052:22</p> <p>into [30] 1940:16; 1946:3; 1949:12; 1950:18; 1956:5, 19; 1957:17; 1958:1; 1961:12; 1968:22; 1969:9; 1971:22; 1973:19; 1975:21, 23; 1982:16; 1990:18, 18, 25; 1993:17; 2052:14; 2053:20; 2055:3; 2056:10; 2064:2; 2066:3; 2069:19; 2094:16, 21</p> <p>intrastate [1] 2082:25</p> <p>intrastate [1] 1965:2</p> <p>intro [1] 2064:18</p> <p>introduced [1] 1950:18</p> <p>introduction [1] 2056:23</p> <p>investment [7] 1978:20, 21, 23, 25; 1979:3; 1980:16; 2048:24</p> <p>investments [2] 1990:8; 2049:2</p> <p>involved [2] 1980:4; 2091:25</p> <p>involves [1] 1987:24</p> <p>iron [1] 1948:7</p> <p>isdn [2] 2046:20, 22</p> <p>isn't [1] 1945:12; 1948:2, 14; 1948:11; 2049:16; 2050:18; 2051:11, 15; 2056:4; 2059:12; 2091:7</p> <p>issue [18] 1945:7; 1980:22; 1984:5, 21; 1986:22; 1989:25; 2041:9; 2043:15; 2050:1; 2061:1; 2084:15, 19; 2085:13; 2091:4, 15</p> <p>issues [5] 1983:25; 1984:3; 2043:15; 2060:9; 2067:13</p> <p>item [3] 1975:11; 2060:25; 2061:25</p> <p>items [1] 2060:24</p> <p>itself [3] 1969:14; 1972:13; 2050:6</p>			
<p>in [1] 1968:19</p> <p>I'm [5] 1939:11; 1944:1; 1948:2, 7; 1949:5, 18; 1951:11; 1955:19; 1959:7, 21; 1960:20; 1991:14, 15, 18, 21, 22; 1995:6; 1996:15; 1967:21; 1968:7, 14; 1989:4; 1971:19; 1973:12; 1974:12; 1983:17; 1990:17; 2041:19; 2042:22, 23; 2043:17; 2048:11, 19; 2050:12, 13, 14; 2051:5; 2052:3, 6; 2053:9; 2054:6, 23; 2061:10; 2063:4, 14, 15, 22; 2064:12; 2069:10</p> <p>I've [2] 1972:18; 2058:7</p> <p>io [1] 1979:2</p> <p>idea [1] 2083:3</p> <p>ideally [1] 2082:8</p> <p>identification [1] 2084:6</p> <p>identified [3] 2063:24; 2084:2, 3</p> <p>identify [4] 2041:2, 9; 2086:1, 3</p> <p>ignored [1] 1980:15</p> <p>illeg [7] 1951:20; 1964:7; 1965:23; 1967:14; 2090:15, 16, 31</p> <p>illegals [4] 1948:9; 1964:17; 2079:2; 2082:21</p> <p>illustrates [1] 2057:17</p> <p>impede [3] 2046:16; 2047:19; 2048:2, 5, 7, 14; 2063:18; 2063:8</p> <p>implement [2] 1991:11; 2088:16</p> <p>implementation [1] 2048:17</p> <p>implicit [7] 1956:9; 1959:11; 1959:15; 2084:23; 2085:1; 2086:11; 2088:1</p> <p>implied [1] 2048:22</p> <p>important [3] 1981:18; 2047:16; 2053:25</p> <p>importantly [2] 1988:16; 2085:4</p> <p>improperly [1] 1988:24</p>			
<p>interpret [1] 2048:18</p> <p>interpreting [1] 1990:21</p> <p>interstate [1] 1956:1</p> <p>intervals [1] 2052:22</p> <p>into [30] 1940:16; 1946:3; 1949:12; 1950:18; 1956:5, 19; 1957:17; 1958:1; 1961:12; 1968:22; 1969:9; 1971:22; 1973:19; 1975:21, 23; 1982:16; 1990:18, 18, 25; 1993:17; 2052:14; 2053:20; 2055:3; 2056:10; 2064:2; 2066:3; 2069:19; 2094:16, 21</p> <p>intrastate [1] 2082:25</p> <p>intrastate [1] 1965:2</p> <p>intro [1] 2064:18</p> <p>introduced [1] 1950:18</p> <p>introduction [1] 2056:23</p> <p>investment [7] 1978:20, 21, 23, 25; 1979:3; 1980:16; 2048:24</p> <p>investments [2] 1990:8; 2049:2</p> <p>involved [2] 1980:4; 2091:25</p> <p>involves [1] 1987:24</p> <p>iron [1] 1948:7</p> <p>isdn [2] 2046:20, 22</p> <p>isn't [1] 1945:12; 1948:2, 14; 1948:11; 2049:16; 2050:18; 2051:11, 15; 2056:4; 2059:12; 2091:7</p> <p>issue [18] 1945:7; 1980:22; 1984:5, 21; 1986:22; 1989:25; 2041:9; 2043:15; 2050:1; 2061:1; 2084:15, 19; 2085:13; 2091:4, 15</p> <p>issues [5] 1983:25; 1984:3; 2043:15; 2060:9; 2067:13</p> <p>item [3] 1975:11; 2060:25; 2061:25</p> <p>items [1] 2060:24</p> <p>itself [3] 1969:14; 1972:13; 2050:6</p>			

July [2] 2002:24, 25
 Just [40] 1939:19; 1940:8; 1941:13;
 1944:10; 1953:9; 1954:10, 15;
 1957:25; 1959:5; 1961:22; 1963:18,
 19; 1964:9, 25; 1965:9; 1966:15;
 1969:4; 1971:9; 11, 8, 20;
 1975:14; 1978:14; 1982:25; 1984:23;
 1986:8; 1988:22; 1990:22; 1991:21;
 2044:16; 2045:1; 2048:3; 2047:8;
 2058:19; 2060:16; 2064:4; 2064:13;
 2086:19; 2092:11; 2093:14
 Justification [1] 1987:7
 Just-1 [1] 2064:1

- K -

keep [12] 1942:18; 1950:7, 14;
 1957:22; 1962:7, 11; 1968:2, 3, 4, 7;
 1973:1; 1985:14
 keeping [3] 1949:15, 22; 1988:10
 keeps [2] 1967:24; 1989:17
 key [1] 1939:24
 keyur [1] 1975:20
 kibbitta [1] 2060:1
 kim [2] 1977:19, 24
 kim's [1] 1977:21
 kind [3] 1947:1, 6, 23; 1948:2; 1949:21;
 1966:24; 1991:9; 2044:22; 2058:8
 kinds [1] 2057:12
 king [1] 1956:8
 knew [1] 1973:4
 knocks [1] 1969:20
 knowing [1] 1972:24
 known [1] 1990:2
 knows [5] 1947:18, 21; 1949:7

- L -

labeled [1] 2062:5
 lack [1] 1991:12
 lady's [1] 1980:20
 laid [1] 2060:25
 language [3] 2063:5, 7
 large [6] 1974:23; 1981:3, 7; 1982:11;
 1991:10; 1992:7
 larger [3] 1942:17; 1962:19; 2059:8
 last [8] 1940:25; 1941:4; 1967:15, 18,
 19; 1968:20; 1970:24; 1977:21; 1985:9
 late [4] 1988:17; 2054:23; 2064:8;
 2064:8
 late-filed [1] 1977:18
 later [1] 2045:5
 late-1 [1] 1985:13
 latitude [2] 1942:13, 16
 lead [3] 1971:12; 1982:21; 1988:25
 least [13] 1943:1; 1950:6, 18; 1954:8;
 1955:8; 1988:14; 1967:9; 1990:3;
 1991:2; 2052:15; 2085:25; 2088:16;
 2091:1
 leave [1] 1950:3
 loc [2] 1964:14; 1967:11
 loco [2] 1988:9; 2090:16
 legal [2] 1958:19; 2091:15
 legality [1] 1987:21

legislation [2] 1942:14; 2093:18
 legislature [3] 1972:6; 1973:22;
 2093:23
 legitimately [1] 1981:2
 length [3] 1991:14; 2091:16, 19
 Leon [1] 1930:18
 less [29] 1940:9; 1942:18; 1943:23;
 1944:24; 1953:8, 12, 17; 1962:3;
 1963:13; 1964:3; 1989:21; 1990:7, 10;
 2045:2, 13; 2049:10, 24; 2056:20;
 2057:22, 25
 let [18] 1950:16; 1952:9; 1958:25;
 1964:21; 1971:18; 1972:8; 1978:19;
 1984:10, 23; 1986:6; 1991:21; 2045:1;
 2047:8; 2048:17; 2052:25; 2060:8;
 2088:4, 21, 24
 let's [12] 1939:21; 1944:11; 1946:20;
 1947:3; 1948:18; 1959:3; 1961:3;
 1963:12; 1964:1, 23; 1965:17; 1968:4
 letter [1] 2047:21
 level [15] 1943:1; 1967:13; 1968:8;
 1989:8, 10; 1990:23; 2057:14; 2091:4;
 2088:18; 2089:16, 23, 24; 2090:23;
 2091:1, 22
 levels [4] 1957:14; 1988:1; 1990:4;
 2042:11
 life [4] 1945:4; 1946:2; 1963:23, 25
 lifeline [8] 1949:25; 1990:9; 1997:4, 8,
 11, 14, 16; 1998:3; 1982:8
 Rights [1] 1960:25
 like [32] 1940:6; 1941:13; 1048:7;
 1947:9; 1948:21, 22; 1953:15; 1964:7,
 10; 1959:25; 1969:13; 1967:2, 18;
 1969:22; 1974:16; 1978:3; 1982:22;
 1985:18; 1989:3; 1990:22; 1991:4;
 1982:9, 18; 2044:5; 2045:9; 2046:20;
 2057:11, 12; 2093:3, 4; 2094:13, 17
 liked [1] 1941:11
 likely [2] 1989:22; 2058:5
 limitation [4] 2090:14; 2091:12, 13, 14
 limited [1] 2062:9
 limiting [1] 1987:3
 line [28] 1939:15; 1944:10, 12;
 1954:10, 15; 1958:9; 1959:5, 13, 23;
 1962:19; 1973:3; 1975:11; 1979:8, 14;
 2046:7; 2047:9, 10, 11; 2080:13;
 2091:8; 2099:9, 18; 2094:5, 6, 7
 lines [17] 1939:10, 12, 19; 1961:3;
 1962:25; 1978:17; 1979:8, 14; 1983:9;
 2042:13, 15, 24; 2090:11, 16, 20;
 2067:9; 2058:18
 link [1] 2088:14
 links [8] 1980:11, 12; 2051:9, 9;
 2058:23; 2062:1
 linkup [2] 1950:9; 1957:4
 list [1] 1985:15
 listed [1] 2080:2
 lister [1] 1984:1
 little [12] 1939:22; 1944:22; 1963:5, 20;
 1971:19; 1972:19, 20; 1973:2; 1984:4;
 1990:20; 2048:20; 2093:1
 live [3] 1964:1, 2; 1983:18
 lives [1] 1959:21
 living [7] 1969:4; 1980:20; 1984:4;
 1982:28; 1985:23, 24; 2047:20
 loaded [1] 1948:4

local [52] 1930:5; 1939:14; 1941:8;
 1942:1, 8, 9; 1944:8; 1945:12, 13;
 1948:10; 1951:17; 1957:24; 1962:9;
 1964:13, 16, 19, 24; 1965:4, 9, 16, 19,
 20; 1966:5, 8, 9, 12; 1967:10, 23;
 1968:4, 7; 1971:24; 1974:1, 1987:22;
 1988:2; 1989:14, 19; 1990:12;
 2046:12; 2047:2, 6, 10, 14; 2049:17;
 2054:20; 2085:7; 2088:2, 3, 5, 9;
 2093:20
 location [2] 1938:19; 1980:9
 locations [1] 2051:5
 long [22] 1939:7; 1941:14; 1948:12;
 1949:10; 1951:10, 13; 1959:6, 22;
 1964:24; 1965:3; 1967:4, 18; 1970:8,
 12; 1971:20; 1973:14; 1975:13;
 1991:18; 2057:16; 2088:14; 2092:12
 long-run [2] 1988:4, 5
 longer [1] 1974:18
 look [14] 1942:2, 21; 1956:7; 1957:10;
 1972:8; 1981:7; 1982:3, 14; 2061:1;
 2062:7; 2068:21, 24; 2089:25
 looked [2] 1990:15; 2083:3
 looking [8] 1972:7, 12; 1973:10;
 2052:3; 2053:6; 2065:13, 14
 looks [2] 1943:9; 1963:2
 loop [32] 1940:9, 10, 17; 1943:8;
 1944:8; 1945:12; 1948:11; 1960:18;
 1961:3; 1962:9, 13; 1968:10; 1972:13;
 1974:2; 1980:12; 1986:25; 1987:3, 7;
 1992:2; 2058:23; 2088:8, 14, 17;
 2062:1; 2089:12, 13, 17; 2090:12, 13,
 21
 loops [10] 1940:2, 13; 1946:10; 1947:7,
 14, 15; 2058:25; 2059:2; 2066:6, 18
 lose [3] 1968:1; 1988:14, 24
 losing [1] 1971:25
 loss [1] 1945:8
 lost [1] 1978:21
 lot [11] 1948:3; 1972:12; 1983:5;
 1990:19; 1991:10, 14, 16, 17, 18;
 2044:2, 5
 lots [1] 1940:8
 love [1] 1972:10
 low [27] 1942:16; 1943:24; 1945:3, 21;
 1948:11; 1950:8, 12, 13; 1953:9;
 1957:3, 22; 1958:11; 1980:7; 1988:21,
 24; 1989:2, 4, 12, 17, 20, 21, 23;
 1990:21; 1991:5, 9; 1992:1; 1993:2
 lower [5] 1979:3; 1982:2, 18; 2055:5,
 14
 lowest [8] 2045:14, 15, 25; 2046:1;
 2054:17; 2055:24
 lucent [2] 1988:7, 10

- M -

m [3] 1930:18; 1979:23, 25
 machine [1] 1989:14
 madam [4] 2064:3; 2066:1; 2088:21;
 2094:17
 made [8] 1942:22; 1954:1; 1969:24;
 1980:8, 9; 1981:16; 2048:19; 2088:10
 magnitude [1] 2086:3
 mailing [1] 1988:15

main [8] 1944:8; 1978:24; 1982:4;
 2058:21; 2060:8
 major [1] 1989:24
 majority [9] 2045:3, 13, 15, 17, 25;
 2048:1, 4, 5; 2085:7
 make [18] 1948:8, 16; 1950:23;
 1952:11; 1962:14; 1963:20; 1966:6;
 1970:8; 1972:11; 1973:15; 1983:25;
 2064:3; 2065:21; 2064:13, 20
 making [7] 1945:11; 1952:9; 1959:8;
 1961:9; 1967:24; 1970:20; 1974:12
 man [1] 1962:23
 manage [1] 1958:14
 mandated [1] 2091:16
 mandated [1] 2088:2
 manner [2] 1969:17; 2048:16
 many [3] 1981:4; 2060:24; 2087:10
 margin [1] 1971:4
 marginal [1] 1946:23
 margins [4] 1947:1, 23; 1948:19;
 1972:2
 marked [2] 2084:5; 2088:25
 market [27] 1940:5, 6; 1941:13; 1948:3;
 1949:1, 3; 1950:18; 1958:25; 1843:8;
 1966:25; 1968:20, 23; 1969:10, 12, 13;
 1970:24; 1972:1; 1973:17; 1974:22;
 1983:2; 2056:25; 2057:3, 16, 22, 25;
 2058:1, 2
 markets [8] 1940:15; 1952:14, 17, 19;
 1960:3; 1967:2
 martian [1] 1948:13
 Massachusetts [2] 1976:24; 1987:15
 material [1] 2055:11
 math [1] 2091:14
 matter [5] 1938:4; 1949:17; 1955:13;
 1982:3; 2068:14
 matters [1] 2045:25
 maximum [1] 2058:23
 may [28] 1940:4, 11; 1952:18, 24;
 1957:21; 1958:1, 6, 17; 1959:20;
 1961:8; 1968:13; 1972:11, 20; 1976:8;
 1984:3, 16; 1988:10, 11, 13; 1992:18;
 2048:13, 18; 2050:18; 2056:19;
 2063:8; 2067:7; 2090:2
 maybe [9] 1941:8; 1954:20; 1955:8;
 1966:11; 1990:1; 1972:18; 2044:24;
 2064:9; 2091:15
 incl [10] 1947:13; 1949:7; 1963:2, 19;
 1964:8; 1973:17; 1989:3; 2041:20;
 2064:9; 2088:19
 inclmetro [1] 2089:3
 mean [22] 1939:9, 10; 1941:21, 22;
 1945:4, 19; 1946:12; 1948:4; 1951:9;
 1953:3; 1955:16; 1956:4; 1957:8;
 1958:4; 1969:3; 1980:8; 1984:25;
 1986:6, 25; 1970:21, 25; 1971:8;
 1974:4; 1978:15; 1986:3; 2042:14;
 2043:20; 2044:19; 2046:19; 2048:20;
 2061:11; 2067:25
 means [10] 1957:5, 11, 22; 1958:2, 5,
 1963:18; 1990:9; 2042:14; 2047:19;
 2061:11
 nr.-ant [1] 2042:25
 mechanism [1] 1954:25
 meet [3] 1993:8; 2040:7; 2063:1
 meeting [1] 2087:14

<p>meets [1] 1988:15 melson [9] 1937:13; 1983:17; 1989:23; 1988:12; 2041:16, 18, 19; 2053:4; 2058:7 mentality [1] 1957:20 mention [1] 1991:8 mentioned [2] 1954:19; 2003:21 mentioning [1] 2054:8 mere [] 1978:25 method [1] 1983:11 methodologies [1] 1980:9 methodology [2] 1954:22; 2056:17 miami [2] 1941:9; 1981:12 mickay [1] 2088:18 middle [2] 1964:2; 2056:23 might [8] 1957:8; 1964:11; 1972:9; 2044:21; 2047:23; 2048:10 miles [4] 1982:8, 9, 12, 17 mind [8] 1950:5, 10; 1952:22; 2049:1; 2050:7; 2053:16 minimum [2] 1990:17, 23 minute [9] 1951:10; 1965:2, 3; 1973:2; 1974:7; 1977:15; 2048:1; 2061:4; 2064:20 minutes [8] 2058:12, 14; 2064:10, 12, 15 missing [1] 1980:18 mix [1] 1957:19 model [88] 1977:4; 1978:9, 20, 22, 23, 24; 1979:1, 10, 12, 17; 1980:5, 6, 14, 24; 1981:2, 5, 8, 12, 22; 1982:10, 18; 1988:8; 1987:21; 1988:1, 6, 19; 1989:23; 1990:5, 7, 9, 20; 1991:5, 23; 1992:15, 24; 1983:5; 2041:8; 2042:8; 2043:4, 5, 8, 13, 18, 23; 2044:11, 18, 23, 25; 2045:2; 2046:7, 22, 25; 2047:3; 2048:7; 2048:4; 2050:9; 2051:23; 2052:8, 17, 20; 2053:9; 2054:2, 4; 2055:3; 2057:2; 2058:22; 2064:3 model's [1] 2054:17 modeled [1] 2047:17 modeling [1] 2078:22 models [12] 1979:4; 1981:1; 2041:22; 2042:3, 14, 20; 2043:9; 2044:9; 2060:7, 13; 2061:9 modem [7] 2048:18, 21; 2050:1, 6; 2059:25; 2060:2; 2061:22 modems [5] 2048:4, 12; 2050:2, 5; 2062:16 modern [1] 1981:21 modified [2] 1979:20; 2041:4 moment [3] 1956:4; 1959:23; 2048:9 money [10] 1941:23; 1948:16; 1947:9, 9; 1956:18; 1963:20; 1967:25; 1974:20; 1988:14, 24 monopoly [1] 1941:17 month [3] 1951:9; 1963:1; 1988:1 monthly [3] 2064:4, 6, 7 more [47] 1939:22; 1944:21; 1945:2; 1947:5; 1952:13, 14; 1963:5, 12, 18, 24, 25; 1964:3; 1982:10; 1982:3; 1984:3, 4; 1985:14; 1974:3, 11; 1981:5, 18, 24; 1982:5, 7, 16, 17; 1985:23; 1988:23; 1991:2, 5, 15; 1992:12; 2044:20; 2047:1; 2051:16; 2056:20; 2057:5, 8, 23; 2058:1; 2060:3; 2065:4;</p>	<p>2063:11 most [7] 1981:15; 1985:11; 1989:16; 2041:5; 2048:25; 2055:23; 2055:11 motors [1] 1940:8 move [12] 1979:4; 1973:11; 1975:20; 1978:20; 1993:12, 14; 2041:11; 2088:20; 2088:16; 2082:2; 2094:13, 17 moving [1] 1970:3 mat [9] 1982:12; 1960:17, 21, 22; 1991:8; 2061:1, 25; 2062:1 much [19] 1941:23; 1945:11; 1948:15; 1950:14; 1954:2; 1958:15; 1959:5, 9, 10; 1960:24; 1972:23; 1974:6; 1982:9; 2044:8; 2052:23; 2053:9; 2057:8; 2058:5, 13 multiple [4] 2090:17, 21, 23, 24 murphy [26] 1937:7, 11; 1979:4, 5, 10; 1977:10, 13; 1978:6, 7; 1979:6, 16; 1980:2; 1984:2; 1989:3, 4; 1988:19; 1987:10, 13, 16; 2041:4; 2048:8, 10, 2058:20, 24; 2063:18 murphy's [4] 1984:18; 1989:10; 1993:18; 2041:12 must [4] 1951:1; 1964:12; 1965:18 my [50] 1941:24, 28; 1945:14; 1948:1; 1950:8, 15; 1951:8, 8, 25; 1952:22; 1953:9; 1954:5; 1955:18; 1956:17; 1958:12; 1959:24; 1961:14; 1963:23; 1972:11, 19, 25; 1978:18; 1979:16; 1979:8; 1988:21; 1987:13, 20; 1989:24; 1990:2; 1991:15; 2041:25; 2042:5, 6, 25; 2048:13, 14; 2048:22; 2048:1; 2050:7; 2052:15; 2053:1; 2058:19; 2058:12; 2064:10; 2066:18; 2067:25; 2068:14, 15; 2062:8; 2093:2 myriad [1] 2090:23 myself [1] 1979:7</p> <p>- H -</p> <p>n [3] 1937:1; 1939:1; 2099:18 name [7] 1937:3; 1978:17, 18, 22; 2065:10, 12; 2066:18 namely [1] 1991:9 nation [1] 1989:24 national [2] 1943:19; 1978:23 nationwide [1] 2051:17 natural [1] 1945:25 nature [3] 1990:14, 15; 1973:24 near [3] 1977:25; 2046:9; 2047:23 necessity [7] 1949:15; 2060:17 necessary [7] 1974:9, 19; 2041:12; 2045:4, 13; 2048:21; 2058:5 need [21] 1941:2; 1947:9, 1948:8; 1949:1; 1958:8, 18; 1981:24; 1982:2; 1988:21; 1971:11; 1973:23; 1974:1; 1984:7, 24; 1988:18; 1992:9, 11; 2041:1; 2042:8; 2044:16; 2050:22; 2053:24; 2057:23; 2058:4; 2062:20; 2066:1; 2068:18; 2090:17; 2091:9; 2092:1 needed [3] 1942:16; 1943:14; 1992:11 needs [4] 1958:23; 1973:12; 1990:23; 2090:25 neglected [1] 1987:11</p>	<p>negotiate [1] 2090:18 negotiated [1] 2089:18 negotiations [1] 2090:7 net [1] 1953:18 network [88] 1941:18; 1948:18, 17, 22; 1950:3, 8, 11, 14; 1952:12; 1953:14; 1954:2, 12; 1957:16, 22; 1960:7; 1962:7, 11; 1982:8; 1983:11; 1989:21, 24; 1989:2; 2044:1; 2048:15, 21; 2047:1, 8, 9, 17; 2048:1, 2, 6, 8, 12, 13, 20, 24; 2049:2, 8, 10, 13, 16, 18, 22, 24; 2052:8, 14, 16; 2057:4, 19; 2061:23; 2062:16, 17; 2063:3; 2068:7 networks [1] 2048:4 neutral [2] 1963:22; 1964:20; 2088:7 new [6] 1955:14; 1970:4; 1981:18; 1989:5; 2052:11; 2088:10 next [8] 1959:4, 21; 1961:16; 1962:9; 1978:2; 2056:13, 22; 2088:22 nice [1] 1987:19 nickel [2] 1965:2; 1974:7, 8 night [1] 1971:3 nobody [5] 1940:17; 1941:16; 1948:12; 1981:22; 1981:14 node [1] 2044:1 nonexistent [1] 1980:17 normally [1] 1985:19 northeast [2] 1983:5, 8 note [1] 1988:9 noted [2] 1938:23; 1989:4 notes [1] 1988:20 nothing [3] 1941:13; 2043:24; 2064:22 notion [2] 1964:10; 1989:25 number [21] 1938:2; 1943:19; 1958:17, 19; 1973:24; 1977:8; 1980:25; 1981:9; 1983:24; 1986:8; 1987:14; 2041:3; 2048:11; 2054:9; 2055:7; 2056:4; 2067:8, 17; 2068:22; 2090:1 numbered [1] 2058:15 numbers [8] 1973:10; 2043:12, 2047:7, 2052:2; 2053:6</p> <p>- O -</p> <p>o [1] 1939:1 oath [1] 1939:4 object [1] 1983:18 objection [3] 2063:25; 2094:15, 20 obligated [2] 1940:21; 1941:1 obligation [1] 1956:24 obliged [1] 1940:9 obscenely [1] 1974:6 obsolete [1] 1980:14 obstacles [1] 1991:3 obtaining [1] 2054:16 obvious [2] 1980:22; 1982:13 obviously [8] 1942:15; 1949:16; 1970:18; 1983:23; 2061:20; 2062:2 occasions [1] 1985:23 occur [4] 1982:22, 25; 1988:21; 1988:14 occurred [1] 1979:23 occurs [1] 2057:18 october [3] 1938:17; 1977:19; 1989:8 off [8] 1948:18, 20; 1957:15; 1982:7;</p>	<p>1983:9; 2059:19; 2062:3; 2064:8, 8 offer [3] 1948:8; 1981:17; 2062:17 offering [1] 1947:12 offers [1] 1990:3 office [2] 1978:25; 1980:16 offices [1] 1978:1 offset [2] 1982:17; 2088:10 often [1] 1982:17 oh [6] 1957:8; 1962:23; 1964:5; 1975:8; 1984:10; 2091:10 okay [13] 1944:19; 1946:22; 1948:21; 1958:4; 1961:1; 1965:22; 1990:11; 2058:15; 2060:22; 2081:15; 2090:11, 20; 2094:4 old [2] 1944:22; 1981:13 once [7] 1942:20; 1962:2; 1963:23, 24; 1984:22, 23; 1988:11 one [88] 1946:16; 1948:12; 1951:24; 1952:9, 18; 1953:2; 1954:8, 19; 1957:21; 1959:13; 1961:8; 1964:9, 11, 17, 22; 1968:9; 1967:8, 20, 22; 1968:5, 12; 1968:1; 1974:3; 1978:20; 1977:17, 24; 1978:1, 15; 1979:7; 1980:22; 1981:1, 18; 1985:8; 1986:7, 8; 1987:10; 1989:24; 1990:4; 1991:12, 14, 17; 1992:3; 1993:1; 2041:7; 2043:14; 2044:15; 2045:28; 2051:7; 2054:17; 2056:13; 2058:21; 2060:10, 13, 19, 21, 25; 2063:9; 2064:18, 20; 2064:10; 2067:13, 19; 2068:10, 14; 2090:1, 3, 4 ones [1] 2090:2 only [17] 1944:23; 1951:11; 1959:22; 1960:7; 1965:1, 15, 19; 1968:11; 2052:8; 2057:10, 14; 2058:3; 2061:8; 2062:11, 21; 2065:8 onset [1] 1989:19 open [2] 1973:16, 18 operate [1] 2050:2 operating [1] 2064:15 operation [1] 1980:18 opinion [8] 1955:16; 2041:22; 2042:2, 5, 6; 2087:25; 2088:14; 2091:2 opportunity [1] 2091:9 opted [1] 2055:23 optimal [1] 2050:24 optimum [1] 1949:19 optimum [1] 1985:24 optional [3] 1940:14; 1949:11; 2085:9 order [12] 1940:5; 1955:1, 3, 7; 2047:17; 2048:7, 25; 2063:2, 6, 14; 2087:7; 2089:1 originally [1] 1963:18 other [80] 1946:8; 1947:1; 1949:2, 11; 1950:15; 1954:9; 1958:10; 1958:1, 10, 17; 1960:14; 1961:8, 11, 13; 1962:16, 17; 1971:18; 1973:11, 17; 1975:18; 1977:17; 1979:8, 7; 1983:24; 1984:17; 1987:21, 24; 1988:18; 1990:12, 15, 19; 1991:8, 11, 10; 2043:14; 2044:3; 2045:18; 2054:5; 2056:9; 2060:5, 10, 14, 19, 21; 2064:21; 2085:21; 2090:12; 2091:16 others [2] 1988:13; 1977:11 otherwise [1] 1982:2 ought [1] 1988:20 our [8] 1978:1; 1986:7; 1990:3, 19;</p>
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1993:3; 2045:10; 2088:13; 2090:15
 ourselves [1] 1985:11
 out [29] 1944:22; 1946:7, 17; 1949:3;
 1951:6; 1954:16; 1959:10; 1999:9;
 1998:25; 1998:22; 1975:8; 1, 3, 6;
 1983:12; 1984:9; 1991:13, 19; 2048:3;
 2055:18; 2059:2; 2060:25; 2062:20;
 2064:15; 2067:8, 17; 2092:24; 2093:19,
 24
 outcome [1] 1990:12
 outdated [1] 1981:12
 output [1] 2043:23
 outside [6] 1983:15; 1985:6; 1988:10;
 1989:20, 21; 1990:20
 over [14] 1948:19; 1954:16; 1961:3;
 1990:13; 1973:3; 1979:21; 1982:25;
 1983:20; 1991:16; 1992:23; 2060:10,
 19, 21; 2064:13
 overall [1] 2045:24
 overcome [2] 1944:7; 1991:12
 overnight [4] 1952:19, 22; 1971:11, 18
 oversight [1] 1990:13
 oversize [1] 2047:4
 overstate [1] 2047:13
 own [6] 1940:4; 1952:1; 1990:18;
 1991:14; 1972:19; 1999:8

- P -

p [2] 1936:18; 1939:1
 pace [1] 1973:6
 package [7] 1940:12; 1947:11, 12, 19;
 1949:9; 1964:25; 1985:14
 packages [1] 1941:12
 packaging [1] 1964:23
 page [36] 1937:3; 1978:17; 1979:8;
 1981:17; 1985:17; 1986:23; 2042:12,
 16, 17, 23; 2043:18; 2046:8; 2050:8,
 13; 2051:8; 2052:1, 2, 3, 4, 6; 2053:5,
 6, 7, 8; 2054:13, 14; 2056:14, 15, 19,
 22, 23; 2067:1; 2088:4; 2089:7;
 2092:15
 pages [7] 1936:11; 1978:18, 19, 20;
 2041:7; 2065:14; 2069:6
 pair [2] 1985:20, 21
 pairs [1] 1985:22, 23; 1986:8
 panel [2] 1978:3, 11
 paper [3] 1946:9; 1977:10; 1991:22
 paradigm [1] 1999:24
 paragraph [2] 2054:14; 2055:18
 part [9] 1944:4, 6; 1982:1; 1983:13;
 1986:12, 16; 1984:18; 1989:12;
 2089:11
 participate [1] 1988:17
 particular [10] 1950:20; 1955:1;
 1983:3; 1989:20; 2044:21; 2054:4;
 2056:9; 2058:2; 2081:25; 2087:10
 particularly [5] 1946:15, 17; 1982:20;
 1989:19; 2084:21
 parts [1] 1980:19
 past [2] 1954:1; 1983:20
 path [1] 1971:12
 pattern [1] 2058:3
 patterns [1] 2057:12
 pay [18] 1938:14, 20, 21; 1953:5, 6, 7,

16, 17, 18, 25; 1958:7, 15, 16; 1960:17;
 1964:4; 1975:13; 1985:14
 paying [9] 1939:18; 1952:24, 25;
 1983:3, 4, 24; 1984:3; 1983:16, 17
 pays [1] 1972:13
 pejorative [1] 1967:1
 penny [1] 1951:10
 people [27] 1939:6, 12; 1941:5;
 1945:20; 1949:15, 22; 1950:2, 6;
 1951:13; 1953:7, 16, 17, 19; 1954:2;
 1957:15, 22; 1958:11, 13, 14; 1959:11;
 1960:6, 7, 8; 1961:24; 1962:1, 7, 11;
 1963:14; 1964:10, 22; 1965:15;
 1966:17; 1971:2, 10; 1978:1; 1983:5;
 1987:6
 per [11] 1944:10, 12; 1957:3; 1962:19;
 1979:25; 1985:22, 23; 2047:9; 2064:5,
 6, 7
 perceive [1] 1971:19
 percent [7] 1954:23, 24; 1955:15;
 1956:11; 1974:8, 16, 17; 1975:2;
 1982:25; 1991:2; 2045:20; 2048:4;
 2051:11; 2052:19; 2053:13, 16, 21;
 2054:10, 21; 2057:3, 22, 25; 2058:2;
 2065:16, 17, 20, 21
 percentage [2] 1952:23; 2054:22
 perfectly [2] 1940:24; 2049:11
 performed [1] 1978:22
 perhaps [6] 1941:3; 1943:2; 1952:18;
 1973:18; 2057:20; 2065:4
 period [1] 1955:18
 person [5] 1948:12; 1959:6; 1962:5;
 1964:12; 1968:9
 perspective [1] 1954:8
 pertains [2] 1989:11; 2058:23
 petitions [2] 2087:10, 12
 phone [2] 1959:7; 1983:20
 phonetic [3] 1977:19; 1987:8; 2056:20
 physically [1] 2045:3
 pick [2] 1955:23; 1964:23
 picture [3] 1946:14; 1970:17
 place [5] 1957:10; 1967:14; 2048:5, 20;
 2090:7
 placed [2] 1982:17; 1982:7
 placeholder [2] 1955:8; 1956:13
 placement [5] 2050:23; 2054:21;
 2055:2, 6, 10
 places [2] 2057:20; 2090:12
 plans [3] 1848:2; 1950:1; 2093:7
 plant [7] 1981:20; 1983:18; 1985:6;
 1988:10; 1990:21; 2052:24; 2057:2
 play [5] 1947:22; 1955:17, 19; 1973:18;
 1982:16
 players [3] 1948:8; 1971:22; 1973:17
 playing [2] 1967:13; 1988:8
 please [7] 1978:4, 17; 2042:12;
 2049:15; 2054:14; 2060:11; 2065:11
 plight [1] 1945:7
 plus [2] 1939:21; 2055:11
 pmr [1] 1977:22
 pocket [2] 1949:12; 1975:9
 point [16] 1948:21, 23; 1948:18;
 1954:5, 18; 1956:13; 1979:20;
 1982:25; 1984:15; 2044:6; 2056:16;
 2061:3; 2062:20; 2063:16; 2067:8;
 2092:24

points [4] 1962:9; 1954:20; 2062:3;
 2064:14
 poles [4] 1982:8; 1982:8, 15; 2054:5
 policies [1] 1971:18
 policy [3] 1954:14; 1955:1; 1962:21
 politically [1] 1962:10
 polling [1] 2064:13
 pool [2] 1942:17; 1943:14
 poor [8] 1939:15; 1940:15; 1944:22;
 1950:14; 1957:15; 1962:5, 11; 1982:12
 pop [1] 1973:3
 portable [1] 2086:7
 position [3] 1941:10; 1960:8; 1965:23
 positioned [1] 2049:8
 possible [4] 1989:4; 2049:15, 22;
 2064:4
 possibly [1] 2057:5
 potential [1] 1948:8
 pots [1] 1959:8
 power [7] 1978:20, 21, 23, 24, 26;
 1979:3; 1980:15
 practical [1] 2043:7
 practices [4] 1980:15; 1984:20; 1985:6;
 2047:20
 precisely [3] 1950:1; 1981:22; 1984:21
 precludes [1] 2065:6
 predecessor [1] 2082:23
 prediction [1] 2044:23
 predictor [1] 2043:25
 predicts [1] 2043:19
 prefaced [2] 1984:17; 2042:25
 prefer [1] 2043:11
 preferably [1] 2088:17
 prefilled [5] 1937:9, 11, 18; 1983:19, 21;
 1984:12; 1985:2; 2065:13; 2066:2
 premise [1] 2044:3
 preparation [2] 1979:18; 1985:9
 prepared [2] 1979:3; 2057:13
 prescribed [1] 2083:13
 present [1] 2043:10
 presentation [1] 1963:5
 presented [2] 1987:4; 2090:12
 presently [1] 2048:12
 presumably [2] 1960:4; 2057:21
 presume [1] 1947:10
 prevent [1] 1950:24
 previously [2] 2065:1, 13
 price [20] 1940:9; 1941:25; 1942:1, 7,
 8, 11, 12; 1947:16; 1949:9; 1954:21;
 1955:23; 1962:9, 13; 1964:16, 19;
 1965:3; 1967:10; 1989:16; 1989:23;
 2084:20
 priced [2] 1945:13; 2055:7
 prices [29] 1942:15, 16, 17; 1950:10;
 1951:6, 7, 13; 1954:11; 1957:23;
 1969:21; 1975:12; 1988:6, 7, 8, 11, 13,
 20, 21; 1989:2, 3, 14; 1992:15, 19, 21,
 22; 1993:8; 2044:18; 2064:24; 2068:19
 pricing [7] 1952:16; 1967:24; 1989:17;
 2044:8; 2064:16; 2064:21; 2090:7
 primarily [1] 2084:16
 primary [3] 2060:22; 2081:5; 2082:8
 principle [1] 1950:2
 prisons [1] 1966:16
 probably [12] 1939:13; 1948:12;
 1958:23; 1960:5; 1981:15, 25;

1983:10; 1970:23; 2056:13; 2057:8;
 2063:10; 2064:20
 problem [16] 1940:25; 1948:8, 9;
 1949:11; 1951:25; 1982:1; 1954:12;
 1958:12; 1964:17, 22; 1971:8;
 1982:12; 1988:11; 2062:1; 2064:18
 problematic [1] 2052:21
 problems [1] 1988:22
 proceed [1] 2082:1
 proceeding [12] 1978:6; 1988:18;
 2043:10; 2048:12, 13; 2050:3;
 2088:19; 2088:19; 2093:19, 22, 24;
 2094:2
 proceedings [2] 1938:13; 1988:19
 process [6] 1942:22; 1989:6; 1992:25;
 1993:1; 2055:25; 2056:4
 processes [1] 1956:19
 produce [4] 1980:7; 1987:21; 1988:19;
 2050:10
 produced [5] 1985:16; 1990:5; 1992:1,
 2; 2052:14
 produces [9] 1944:12; 1982:16;
 1989:23; 1990:7, 20; 1993:9; 2050:15;
 2051:7, 15
 product [2] 1940:12; 1973:5
 professional [4] 2041:22; 2042:2, 5, 6
 profitable [5] 1952:3; 1968:20; 2005:8,
 12, 17
 profits [1] 1941:17
 program [6] 1907:4, 9, 11, 17; 2044:15,
 19
 programs [2] 1980:9
 promised [1] 2064:10
 proper [4] 1988:19; 1993:8; 2061:14;
 2086:18
 property [1] 1955:9
 proponents [1] 1988:9
 proposal [2] 2090:6, 8
 proposals [2] 2087:17; 2090:13
 propose [2] 2087:18; 2089:21
 proposing [1] 2043:17
 provide [46] 1939:7; 1940:5, 17, 18, 21,
 22; 1948:10; 1948:10; 1951:11;
 1952:14; 1957:25; 1964:12, 24; 1965:7,
 18, 20; 1966:1, 5, 8, 9; 1967:15, 16;
 1968:5; 1971:24; 1974:2; 1986:24;
 1987:11; 1991:3; 2041:5; 2043:2;
 2047:1, 10, 14, 17; 2048:21, 25;
 2048:10, 19; 2060:4; 2061:3; 2062:5,
 12; 2089:13, 17
 provided [3] 1979:21; 1980:23; 2060:4
 provider [5] 1948:17; 1952:13;
 1967:15, 19; 2043:7
 providers [2] 1958:18; 1967:18
 provides [7] 1945:11; 1948:22; 1947:4;
 2042:9; 2045:2, 13; 2049:8
 providing [22] 1940:1; 1948:16;
 1960:6; 1968:7, 17, 18; 1967:23;
 1968:10; 1988:2; 2043:3; 2044:3;
 2048:22; 2047:8; 2048:1, 10, 12, 14,
 19; 2048:9, 17; 2062:8; 2093:20
 provision [3] 2048:3, 8; 2062:16
 provisioned [1] 2059:15
 proxy [10] 2041:22; 2042:3, 8, 14, 20;
 2043:5, 8, 9; 2044:11, 24
 public [3] 1930:1; 1953:13; 1954:13

<p>publication [1] 1987:4 published [1] 1985:7 pulls [1] 1975:15 purchased [1] 1985:8 purpose [10] 1980:1; 1982:10, 11, f 1988:18; 2048:11; 2055:16, 19; 2084:10; 2093:2 purposes [6] 2041:23; 2044:12; 2046:16; 2059:19, 20; 2093:22 pursuant [1] 1938:6 put [12] 1940:7; 1941:12; 1947:14; 1951:20; 1956:12; 1958:2; 1961:15, 16; 1963:12; 1967:3; 1971:22; 1988:4 puts [1] 1947:7 putting [1] 2064:5 puzzling [1] 1992:3</p> <p>- Q -</p> <p>q [132] 1878:15, 25; 1877:3, 6, 9, 13, 17, 21, 24; 1878:2, 5, 8, 11, 14; 1879:5, 15; 1980:2; 1987:10, 18; 2041:19; 2042:2, 12, 17, 19, 23; 2043:9, 19, 24; 2044:10; 2045:1, 7, 19, 23; 2046:3, 8, 11, 18, 21, 25; 2047:6, 25; 2048:9; 2049:8, 14, 16; 2050:8, 13, 15, 19; 2051:3, 6, 11, 16, 20, 22; 2052:1, 7, 13, 23; 2053:1, 5, 12, 16, 20; 2054:9, 13, 20, 23; 2055:1, 5, 9, 13, 25; 2056:9, 13, 17, 22; 2057:2, 18; 2058:18, 25; 2059:8, 8, 12, 14, 20; 2060:2, 6, 12, 16, 22; 2061:2, 10, 18; 2062:5, 25; 2063:12; 2065:10, 13, 16, 18, 20, 23; 2064:7; 2066:18; 2067:1, 5, 22; 2068:4, 21, 24; 2069:6, 9, 11, 15, 24; 2090:5, 11, 16, 20; 2091:6, 13, 20; 2092:4, 15, 18, 21; 2093:5, 14, 22; 2094:4, 7 qualified [1] 2041:8 quality [3] 1948:7; 2061:21; 2062:8 question [22] 1941:19; 1943:5; 1948:5; 1950:16; 1952:9; 1967:5, 6; 1962:3; 1964:8, 21; 1972:19; 1979:3; 1980:24; 1981:1; 1988:17; 2044:8; 2048:18; 2049:1, 15; 2053:1; 2055:15; 2064:19 questions [15] 1937:6; 1939:5; 1975:16; 1978:2; 1984:9; 2058:10, 18; 2064:8, 20; 2065:23; 2066:20; 2093:8, 10, 11, 15 quickly [5] 2052:10; 2064:8; 2066:21; 2088:4; 2091:15 quite [6] 1967:13; 1970:22; 1991:15; 1992:23; 2050:12; 2087:14 quote [2] 1980:19; 2057:16 quoted [1] 1998:2 quotes [1] 2055:21 quoting [1] 1988:14</p> <p>- R -</p> <p>r [1] 1939:1 r.0a [1] 1979:1 raise [1] 1954:11 range [2] 2059:9, 16 rate [10] 1846:19; 1951:17; 1953:3; 1973:9; 1986:19; 2084:16; 2085:9; 2086:2, 9; 2092:21 rates [18] 1848:13; 1952:24; 1958:9; 1972:13; 2050:2; 2086:4, 5, 6; 2089:13, 17; 2090:21; 2091:3, 4, 5; 2092:25; 2093:1 rather [3] 1887:26; 2042:20; 2054:17 rational [1] 2055:19 reach [2] 1980:11; 2045:4 read [5] 1955:3; 1979:3; 1983:18; 2063:18; 2068:3 readied [1] 2049:1 readily [1] 1988:24 reading [1] 1985:25 ready [1] 2048:18 real [4] 1970:23; 1983:1; 1985:2; 1990:24 realistic [1] 1991:7 reality [1] 2055:11 really [5] 1987:1; 1970:25; 1972:21; 1974:9; 1976:21; 2060:7 reap [1] 1941:17 reason [9] 1946:9; 1957:16; 1961:10, 11; 1982:10, 19; 2043:14; 2062:22; 2090:25 reasonable [4] 1989:21; 2042:10; 2043:8; 2052:21 reasonably [8] 2042:7, 9; 2049:23; 2091:8, 18 reasons [4] 1952:18; 1961:9; 1993:5; 2043:14 rebalance [1] 1873:23 rebalancing [4] 1972:8, 7, 6; 1973:5 rebuttal [14] 1876:25; 1977:3; 1978:6, 16, 17; 1979:8; 1983:19; 1993:13, 18; 2055:15, 16; 2060:2; 2084:10; 2089:15 recall [1] 1950:17 receive [2] 1944:16; 1959:9 received [3] 2064:2; 2084:18, 21 recent [1] 1979:22 recently [2] 1950:2; 1981:15 recognized [2] 2084:23; 2090:17 recognizing [1] 1873:1 recommendations [2] 2064:11; 2087:15 reconsideration [3] 2083:2; 2087:18, 12 reconvene [1] 2084:23 record [8] 1875:21, 23; 1988:7; 1991:17; 2065:10; 2066:3 recover [4] 1963:22; 1984:9, 23; 1988:12 recovered [5] 1953:11, 12; 1954:5, 24; 2084:19 redirect [5] 1979:19, 20; 2021:19; 2084:10, 11 reduction [1] 2086:11 reexamine [1] 1957:16 reference [1] 1942:23 referenced [2] 1978:19, 20 referred [1] 2087:13 referring [2] 2045:6; 2054:8 reflect [2] 2082:19, 24 reflected [1] 1990:6 regard [3] 1991:9; 2047:22; 2061:11 regardless [1] 2058:4 regulated [5] 1951:7, 14; 1957:23; 1964:15, 18 regulatory [1] 1990:13 rehwinkel [1] 1937:17; 2064:3, 9, 25; 2065:9; 2068:1; 2084:1, 6; 2088:13; 2094:11, 13 reinforce [1] 1990:19 rejected [1] 1954:15 relates [1] 1977:21 relation [2] 1841:20; 1843:16 relative [1] 2044:25 release [2] 2041:8; 2051:23 remain [1] 2047:15 remains [1] 1984:20 remember [1] 1955:11 rememor [5] 1980:25; 1981:3, 4, 25; 2050:17 remove [2] 1958:9; 1989:23 removed [1] 2085:2 repeat [2] 2049:15; 2060:11 replace [2] 1982:7; 2088:2 replaced [1] 2087:2 replicate [1] 2041:2 replicates [1] 2042:7 report [10] 1858:9, 10; 1977:24; 1990:3; 1991:18; 2045:11, 16, 19; 2093:23; 2094:5 reported [2] 1936:21; 2043:21 represent [2] 1987:25; 2088:19 representing [1] 2041:20 request [1] 2052:11 require [3] 1951:18; 1967:9; 2057:5 required [8] 1948:18; 1950:7; 1973:6; 2047:1, 13; 2049:5; 2050:20; 2085:1 requirements [3] 1950:20; 1985:21; 2048:14 requires [4] 2058:24; 2059:5, 9; 2091:3 requiring [1] 1964:10 resale [1] 1960:18 research [1] 1979:23 residential [4] 1985:22; 1989:21; 2085:18; 2086:23 resistance [2] 1987:9; 2062:23 resolve [1] 1984:22 resolved [1] 1984:5 resort [5] 1940:25; 1941:4; 1967:15, 18, 19; 1968:20 respect [8] 1952:10; 1980:24; 2052:21; 2061:14, 21, 22, 23 respond [4] 1979:24; 2052:10; 2058:24; 2057:14 responding [2] 1979:23, 24 responsibility [1] 1979:19 rest [1] 1966:18 restricted [1] 2059:23 result [5] 1942:13; 1967:22; 1989:18; 1992:3; 2055:25; 2093:18 results [5] 1844:8; 1990:1; 1993:8, 2043:11, 12; 2047:3; 2050:10; 2056:1 retail [1] 1950:18 revenue [28] 1942:4, 23; 1943:2, 5, 10, 15, 23, 24; 1944:12, 17, 21; 1945:3, 20, 21; 1947:5; 1948:18; 1953:15; 1954:21; 1988:12; 1984:20; 1974:9, 2084:17; 2088:23; 2087:8, 20; 2092:18; 2093:3</p>	<p>regulated [5] 1951:7, 14; 1957:23; 1964:15, 18 regulatory [1] 1990:13 rehwinkel [1] 1937:17; 2064:3, 9, 25; 2065:9; 2068:1; 2084:1, 6; 2088:13; 2094:11, 13 reinforce [1] 1990:19 rejected [1] 1954:15 relates [1] 1977:21 relation [2] 1841:20; 1843:16 relative [1] 2044:25 release [2] 2041:8; 2051:23 remain [1] 2047:15 remains [1] 1984:20 remember [1] 1955:11 rememor [5] 1980:25; 1981:3, 4, 25; 2050:17 remove [2] 1958:9; 1989:23 removed [1] 2085:2 repeat [2] 2049:15; 2060:11 replace [2] 1982:7; 2088:2 replaced [1] 2087:2 replicate [1] 2041:2 replicates [1] 2042:7 report [10] 1858:9, 10; 1977:24; 1990:3; 1991:18; 2045:11, 16, 19; 2093:23; 2094:5 reported [2] 1936:21; 2043:21 represent [2] 1987:25; 2088:19 representing [1] 2041:20 request [1] 2052:11 require [3] 1951:18; 1967:9; 2057:5 required [8] 1948:18; 1950:7; 1973:6; 2047:1, 13; 2049:5; 2050:20; 2085:1 requirements [3] 1950:20; 1985:21; 2048:14 requires [4] 2058:24; 2059:5, 9; 2091:3 requiring [1] 1964:10 resale [1] 1960:18 research [1] 1979:23 residential [4] 1985:22; 1989:21; 2085:18; 2086:23 resistance [2] 1987:9; 2062:23 resolve [1] 1984:22 resolved [1] 1984:5 resort [5] 1940:25; 1941:4; 1967:15, 18, 19; 1968:20 respect [8] 1952:10; 1980:24; 2052:21; 2061:14, 21, 22, 23 respond [4] 1979:24; 2052:10; 2058:24; 2057:14 responding [2] 1979:23, 24 responsibility [1] 1979:19 rest [1] 1966:18 restricted [1] 2059:23 result [5] 1942:13; 1967:22; 1989:18; 1992:3; 2055:25; 2093:18 results [5] 1844:8; 1990:1; 1993:8, 2043:11, 12; 2047:3; 2050:10; 2056:1 retail [1] 1950:18 revenue [28] 1942:4, 23; 1943:2, 5, 10, 15, 23, 24; 1944:12, 17, 21; 1945:3, 20, 21; 1947:5; 1948:18; 1953:15; 1954:21; 1988:12; 1984:20; 1974:9, 2084:17; 2088:23; 2087:8, 20; 2092:18; 2093:3</p>	<p>revenues [15] 1943:9; 1946:22; 1953:23, 24; 1958:1; 1960:17; 2084:17, 19; 2085:15, 18; 2088:9; 2088:1; 2092:22 review [1] 1980:4 reviewing [1] 1942:22 revised [2] 1987:5; 2062:23 revisted [1] 1955:11 revisting [1] 1958:24 rick [1] 2041:19 rid [1] 2088:2 right [38] 1938:17; 1944:13; 1947:17, 20, 24; 1948:7; 1950:4, 22; 1951:19; 1955:7; 1956:7; 1958:17; 1961:21; 1963:2; 1964:8; 1965:1, 11, 24; 1966:3; 1969:3; 1972:8, 15; 1974:17; 1977:11; 1978:8; 1979:13; 1988:11, 12; 1991:1; 2045:23; 2088:8; 2052:1, 7; 2055:1; 2056:18, 21; 2059:13; 2061:18; 2091:11 right-hand [1] 2052:5 rise [1] 2048:9 rlier [1] 2054:2 risk [1] 1972:14 roads [1] 1991:1 room [1] 1983:20 roughly [1] 2051:11 route [4] 1982:8, 9, 12, 17 routes [1] 1991:19 rpr [1] 1938:21 rule [1] 1989:9 rules [2] 1964:3; 1968:18 run [4] 1960:18; 1981:14; 1964:1; 2090:9 running [2] 1980:19; 1981:2 rural [10] 1946:15; 1951:21; 1952:20; 1988:16, 19; 1991:15, 17, 19, 21; 1982:1 rurals [1] 1952:24</p> <p>- S -</p> <p>s [3] 1939:1; 1940:15; 1974:19 s-t-o-u-p-h-t-o-n [1] 1987:15 safe [1] 1941:15 safely [1] 1941:10 said [11] 1950:19; 1958:22; 1959:20; 1965:1; 1970:13; 1972:16; 1973:22; 2044:17; 2048:5; 2054:24; 2064:9 same [20] 1945:8; 1947:12; 1950:24; 1951:20; 1954:6, 15; 1962:22; 1963:3, 22; 1964:13; 1965:23; 1969:17; 1971:8; 2043:17; 2051:4; 2062:5, 8, 2063:24; 2064:12; 2068:7, 20; 2089:16, 23; 2090:22; 2091:23; 2092:5 sample [1] 2055:13 satellite [1] 1959:14 satisfactory [2] 2049:11, 23 saw [2] 1980:19; 1991:25 say [26] 1939:13, 21; 1943:18; 1944:11; 1948:16; 1950:25; 1952:20; 1954:9; 1958:16; 1958:5; 1969:3; 1960:21; 1961:5; 1964:11; 1966:18; 1969:1, 11; 1972:8; 1984:3; 2043:18; 2048:18; 2058:12; 2059:25; 2089:25;</p>
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2092:1; 2093:9 saying [6] 1960:23; 1965:6; 2089:15; 2091:3, 10; 2062:25 says [8] 1960:16; 1962:23; 1963:~ 1973:12; 2042:4; 2046:9; 2052:5. 2062:17 scenario [1] 1962:18 schedule [1] 1958:9 scope [4] 1963:18, 21; 1966:3; 2056:17 scorched [1] 2044:1 screw [1] 1974:24 se [1] 1957:3 seaman's [1] 1989:13 seasonal [1] 1963:4 seat [1] 1976:20 seated [1] 1976:8 seattle [1] 2087:14 second [5] 1960:5, 6; 1961:11; 1993:13; 2053:7 secondary [1] 1965:20 secondly [4] 1968:25; 2065:4; 2066:3; 2087:9 section [2] 1936:6; 1979:10 see [22] 1947:3; 1948:2, 29; 1951:3; 1953:18; 1956:6; 1961:2; 1962:7; 1965:17; 1968:4, 24; 1971:19; 1964:6; 2046:9; 2047:25; 2048:17; 2052:7, 12; 2054:22, 25; 2056:25; 2062:22 seek [1] 2085:20 seem [1] 1950:17 seems [5] 1943:21; 1962:2; 1965:13, 23; 1993:1 seen [2] 2053:23; 2090:11 selecting [1] 2056:18 selective [1] 1993:3 sell [4] 1948:18; 1947:15; 1949:4; 1959:15 semblance [1] 2093:2 send [2] 1962:4; 1965:15 sense [10] 1940:17; 1950:23; 1951:8; 1952:1; 1957:9; 1961:19; 1969:9; 1971:13; 1972:4; 1962:2 sensible [1] 1971:10 sensitive [2] 2000:3; 2093:4 sensibility [1] 2091:18 sentence [2] 2043:4; 2053:8 separate [2] 1957:23; 1958:1 separately [1] 1950:9 separating [1] 2061:24 september [2] 1961:17; 2092:17 sequence [1] 2094:25 sequences [1] 1939:2 series [1] 1939:9 serve [22] 1944:10, 24; 1945:3; 1947:7; 1950:13, 20, 21; 1951:1, 2, 6, 21; 1952:2; 1958:6, 11; 1964:11, 12; 1967:9; 1968:13; 2057:3; 2065:12, 20, 22 serves [4] 1941:24; 1963:18; 2050:17, 20 service [127] 1936:1, 8; 1939:14, 16, 22; 1941:5, 12, 20; 1942:1, 8, 10; 1946:10; 1947:6; 1948:7, 8, 10; 1950:5, 10; 1951:8, 17; 1962:10, 13; 1963:10; 1965:18; 1968:22; 1967:2, 18, 24, 25; 1968:13, 21; 1969:7, 22; 1960:9;	1961:5, 22, 23; 1962:4, 6, 8, 9, 19; 1963:13; 1964:13, 16, 19, 24; 1965:4, 8, 10, 16, 18; 1966:1, 5, 8, 9, 12, 17, 22; 1967:10, 16, 23; 1968:5, 6, 10, 21; 1969:21; 1971:13, 29; 1974:2, 6; 1982:9; 1983:10, 12; 1987:23; 1988:3; 1989:14, 18; 2041:24; 2042:4, 8, 10; 2043:3; 2044:4; 2046:12; 2047:2, 4, 6, 12, 14; 2048:11, 17; 2050:7; 2059:20, 21, 22, 24; 2061:2, 4, 21; 2062:5, 8, 10, 12, 13; 2063:3, 4, 14; 2064:16, 18, 20, 25; 2065:2, 7, 24; 2066:4, 5, 8, 10; 2068:8, 12; 2091:21; 2092:20 services [54] 1843:8; 1847:1, 19; 1948:2, 11; 1954:17; 1969:10, 17; 1960:3; 1962:29; 1964:23; 1965:20; 1968:9; 1975:2, 13; 1980:18, 20; 1961:18, 17; 1962:2; 1966:25; 1968:23; 1969:1, 12; 1963:9; 2046:8, 17, 18, 20, 23; 2047:8, 10, 18, 19; 2048:1, 3, 5, 8, 10, 13, 20, 22, 25; 2049:23, 28; 2091:22, 24; 2062:17; 2063:9; 2064:21; 2065:9; 2069:3 serving [11] 1947:3; 1948:10; 1950:12, 13; 1961:11; 1962:14; 1966:29; 1990:10; 1991:14, 20; 2086:2 set [8] 1942:21; 1950:10; 1951:7; 1953:18; 1957:2; 1962:8; 2047:16; 2065:23; 2068:12 sets [1] 2052:1 setting [3] 1942:19; 1947:1; 1962:13 seven [1] 1939:12 several [4] 1942:21; 1967:17; 1968:21; 2062:20 shack [4] 1960:21; 1962:5, 22 share [5] 1948:18; 1968:9; 2057:22; 2058:1, 2 sharing [1] 1969:9 she [3] 1939:16, 18, 20 shift [3] 1953:20; 1969:24; 1973:11 shifted [1] 1974:5 shifting [2] 1963:4, 6 shirt [1] 1972:1 shooting [1] 1969:4 short [2] 1950:4; 1991:5 shortage [1] 2091:12 shortfall [4] 2044:18; 2045:16, 19; 2064:21 should [72] 1541:23; 1943:18; 1948:20; 1954:6; 1955:9, 25; 1958:20, 21; 1961:21; 1979:9; 1984:1, 16; 1987:22; 2046:7, 18; 2047:18, 19; 2049:7; 2091:8, 16; 2062:18, 25; 2063:10; 2076:4, 6, 10; 2088:7, 12; 2089:14; 2091:12, 13, 20; 2064:5 shouldn't [7] 1958:21; 1961:21; 2059:17; 2060:20; 2090:22; 2092:4, 11 show [3] 1979:23; 2064:14, 19 showing [1] 2064:23 sichter [14] 1937:19; 2064:5, 25; 2065:2, 5, 10, 12, 30; 2064:7; 2066:11, 18; 2068:24; 2090:9; 2093:14 sichter's [1] 2069:2 side [3] 1970:11; 2090:16 sign [1] 1963:9 significant [2] 1963:3	significantly [2] 1979:2; 2066:7 similar [2] 1943:4; 2067:6 simple [1] 1962:3 simply [6] 1945:6; 1955:14; 1973:13; 2041:3; 2047:2; 2091:4; 2093:2; 2094:1 simco [4] 1955:4; 1960:5; 1962:24; 2092:22 sir [8] 1977:2; 1989:17; 2042:19; 2046:3; 2048:8; 2049:14; 2053:1; 2091:4 sit [1] 1956:13 sitting [1] 1961:4 situation [5] 1963:3; 1969:9; 2043:8; 2045:12; 2057:8 six [8] 1939:12, 18, 21; 1940:16; 1965:3; 2069:19; 2090:8, 9 size [12] 1942:3; 1956:7, 8, 11, 21; 1974:7; 1979:14; 1991:10, 16; 1962:7; 2044:18, 23 sized [1] 1965:20 sizes [2] 1980:25; 1992:19 sizing [2] 1965:18; 1987:23 skim [2] 1962:5, 6 skimming [5] 1950:24; 1966:20, 21, 24; 1967:1; 1968:23 slc [1] 1954:1 slight [1] 2047:22 slightly [1] 2047:22 slow [2] 1969:12, 18 small [4] 1944:7; 1961:4, 25; 2065:23 smaller [2] 1962:17; 2068:2 smart [1] 1971:23 social [1] 1950:4 sole [3] 2060:9, 18, 20 solution [3] 2068:29; 2091:4, 10 solve [1] 1971:14 solved [1] 1961:25 some [32] 1940:3, 12; 1941:3, 6; 1942:15, 25; 1943:1; 1947:8; 1962:22; 1964:29; 1967:5; 1969:11, 18; 1961:24; 1966:16, 20; 1969:18, 21; 1970:20; 1971:22; 1972:7; 1973:16; 1978:11; 1980:10; 1983:14; 2044:5, 22; 2047:7; 2065:14; 2064:12; 2067:18; 2063:2 somebody [5] 1940:20, 21; 1960:19; 1967:14 somehow [1] 1948:12 someone [7] 1944:15; 1948:4, 17; 1959:4; 1960:16; 1967:16; 1972:21 someone's [1] 1949:12 someones [1] 1978:9 something [14] 1940:6; 1941:9; 1950:9; 1961:4; 1963:15; 1964:7; 1966:14; 1968:22; 1961:24; 1962:25; 2041:25; 2045:9; 2054:18; 2068:24 sometime [1] 1966:10 somewhat [2] 1962:11; 2065:21 somewhere [1] 1970:9 sorry [7] 1960:20; 1968:7; 2042:22, 23; 2050:13; 2054:23; 2063:23 sori [12] 1950:5, 24; 1955:18; 1956:19; 1957:5, 19; 1958:22; 1961:20; 1962:4; 1965:17; 1973:3, 6 sorts [2] 1971:1, 2	sounds [1] 1967:1 source [2] 2064:25; 2068:1 sources [2] 1963:2; 2065:23 spanning [1] 1960:17 spare [1] 2052:8, 13, 16, 22; 2056:20; 2057:4, 7, 9, 19, 23 special [1] 1980:19 specific [11] 1943:8, 10; 2042:20; 2043:4, 15; 2044:18, 20; 2061:11; 2069:22 specifically [1] 2052:18 speculation [1] 2044:7 speculative [4] 1968:9, 7, 8, 11 speech [1] 1970:8 speed [2] 2060:2; 2062:2 speeds [2] 2059:25; 2061:23 spend [1] 1963:5 spends [1] 1943:11 split [1] 1978:18 splita [1] 2050:18 spreading [1] 1964:16 sprint [8] 2056:3; 2065:6; 2065:12, 25; 2069:12, 16; 2091:2; 2094:1 sprint's [3] 2090:5, 8; 2092:16 sprint-florida [1] 2069:4 staff [3] 2058:11, 19; 2093:16 stage [1] 1968:7 stand [2] 1940:3; 1976:4 standard [19] 1940:3; 1941:22, 23; 1960:15; 1961:11; 1962:8; 1967:5; 1961:8; 2042:9; 2062:14, 18, 21, 23, 24, 25; 2063:1, 13 standards [3] 1964:16; 1965:21; 2042:21 standing [3] 1971:21; 1972:2; 1976:5 start [4] 1964:22; 1978:15; 2049:21; 2059:4 started [1] 1940:24 starting [2] 2041:16; 2044:6 starts [1] 1943:9 state [15] 1948:11; 1955:7; 1959:11; 1962:23; 1963:7; 1976:17; 1978:21; 1991:24; 1963:9; 2045:17; 2050:8, 9; 2065:10; 2065:13; 2067:1 stated [5] 1955:1, 10; 2047:21; 2058:19; 2063:17 statement [4] 1977:23; 2042:14; 2048:18; 2066:18 statements [1] 1965:12 states [8] 1954:24; 1979:11; 1961:18; 2049:11, 18; 2063:18 statewide [3] 1948:18; 2068:12, 13 static [1] 1973:24 status [1] 1954:25 stature [2] 1972:9; 2044:13 statutes [1] 1936:7 stay [3] 1972:4; 1964:7; 1965:1 step [4] 1940:20, 22; 1972:21; 1973:16 steps [8] 1971:9, 15; 1972:20, 24; 1973:2 stick [3] 2062:18; 2063:9, 10 sticking [1] 2047:19 stim [13] 1943:22, 24; 1944:21; 1955:17; 1963:15; 1968:7; 1967:13; 1975:4; 1976:5; 1980:11; 2060:12 thoughton [1] 1967:14
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<p>street [2] 1988:24; 1978:24 streets [1] 1991:1 strike [1] 2000:8 string [1] 1982:5 structure [4] 1945:18; 1982:10; 2054:3; 2085:5 structures [3] 1982:15, 20; 2094:18 stuck [1] 19. studies [2] 2048:11; 2094:2 study [10] 1942:14; 1988:4, 5, 18; 1990:1; 2045:21; 2091:9, 17; 2053:18; 2085:12 stuff [3] 1961:15; 1970:19; 1989:7 stupid [1] 1975:15 subject [3] 2091:12, 14; 2055:5 subjects [1] 2045:1 submit [1] 1981:5 subscribe [2] 1989:22, 24 subscriber [4] 1954:10, 18; 1973:3; 1991:20 subsidies [8] 1949:25; 1954:1; 1958:9; 2084:23; 2085:1; 2089:11; 2089:1, 3 subsidization [1] 1950:4 subsidize [1] 1939:23 subsidized [1] 1939:23 subsidizing [1] 1940:1 subsidy [18] 1940:2; 1942:17; 1943:13; 1944:7, 16; 1945:16; 1952:21; 1957:21; 1959:11, 18; 1960:12; 1961:4, 7, 23; 1989:15; 2084:25; 2085:24; 2088:3 substance [1] 2054:15 substantial [1] 1964:18 substantially [1] 1992:12 subtract [1] 1950:18 such [9] 1940:4; 1941:10; 1953:29; 1962:7; 1980:18; 1982:12; 2049:2, 4, 8 sufficiency [1] 2084:17 sufficient [3] 1941:8, 14; 2057:19 suggest [5] 1939:9; 1953:23; 1982:23, 24; 1991:8 suggested [1] 2091:22 suggesting [1] 1986:11 suggestion [1] 1991:11 suggests [2] 1991:11; *1982:25 suite [1] 1987:14 sum [1] 2055:11 summarize [2] 1980:3; 1988:18 summarizing [1] 1984:13 summary [7] 1984:24; 1985:1; 1987:17; 2054:18; 2084:10; 2084:8; 2093:17 summers [2] 1983:6, 7 summit [1] 2048:1 superseding [1] 1987:4 supplier [2] 1940:11, 25 suppliers [1] 1941:4 supply [1] 1975:1 supplying [2] 1940:10; 1988:23 support [8] 1948:20; 1957:14; 1980:18; 1992:10; 2042:10; 2084:17 suppose [2] 1984:25; 1974:4 supposed [3] 1980:12; 1984:13, 24 sure [17] 1939:11; 1945:11; 1948:8; 1949:18; 1952:11; 1955:20; 1957:8; 1961:8; 1988:14; 1974:3; 2048:18;</p>	<p>2051:2, 3, 5; 2054:8; 2060:12; 2063:14 survey [2] 2055:18, 20 susan [1] 1936:15 switch [2] 1971:3; 1980:15 switched [1] 1953:14 switches [1] 1980:17 switching [1] 1979:1 sworn [8] 1976:6, 7, 12; 1977:19; 2064:25; 2065:1, 3, 7 symmetric [1] 1940:24 synchronization [2] 2091:25; 2092:4 synchronize [1] 2091:20 system [9] 1957:21, 23; 1959:14; 1963:25; 1989:1; 1971:10; 1972:22; 1989:10; 2084:23 systematic [1] 1980:8 systems [5] 1980:18, 19; 1981:19; 1983:15</p>	<p>20, 24; 1948:4, 21, 25; 1949:23; 1950:22; 1961:3, 18, 24; 1962:8, 16; 1953:2, 9; 1954:4; 1955:2, 12; 1958:3; 1957:8, 13; 1958:9, 17, 24; 1959:2, 19; 1960:2, 23; 1961:1; 1962:1; 1963:2, 11, 17; 1964:5, 15, 21; 1965:9, 12, 17, 22, 25; 1966:4, 23; 1967:7, 12, 20; 1968:4; 1969:3, 8; 1970:2; 1971:2, 8; 1972:10, 15, 23; 1973:20; 1974:3, 12, 17, 1975:6, 11, 24; 1976:1; 2064:13 team [3] 2055:18, 23 technologies [2] 1985:7, 11 technology [7] 1973:25; 1974:4; 1980:14; 1981:13, 21; 1988:5, 7 telecommunication [1] 1989:20 telecommunications [4] 1936:5; 1953:13; 1993:9; 2087:3 telephone [6] 1963:7; 1982:6; 1983:9; 1982:9; 2052:10; 2054:5 tell [8] 1964:16; 1971:18; 1978:14; 1988:9; 2042:13; 2091:2 telling [2] 1960:8; 2057:18 tells [4] 1956:14; 2043:24; 2044:2, 25 ten [2] 1982:24; 2089:6 tender [1] 2041:13 term [2] 1941:20; 2047:23 terminal [1] 1981:25 terminals [5] 1980:25; 1981:3, 4, 7; 2050:17 terms [1] 1967:23 terribly [2] 1948:8; 1948:14; 1951:4 territory [1] 1980:10 terrify [1] 1936:14 test [5] 1957:17; 1958:2, 5; 1980:18; 1983:8 tested [2] 1957:11, 22 testified [2] 1978:12; 2065:7 testify [2] 1984:19; 2041:8 testimony [7] 1937:9, 11, 17, 18; 1939:4; 1941:25; 1986:22; 1976:25; 1977:3, 14, 15; 1978:8, 11, 18, 17; 1979:5, 8, 11; 1980:3; 1983:18, 22; 1984:2, 8, 11, 12, 17, 18, 25; 1988:2, 7, 10, 11, 18, 18, 21; 1987:17, 20; 1989:24; 1990:3; 1991:16; 1993:4, 13, 15, 16; 2041:12, 15; 2042:1, 13, 23; 2045:2, 6, 8, 12; 2048:6; 2047:13; 2050:2, 8; 2052:13, 15; 2058:18; 2063:22; 2065:13, 15, 21; 2066:2; 2084:9, 11; 2087:2; 2088:15; 2092:13; 2093:17 testing [1] 1957:5 tests [1] 2043:17 text [1] 2052:2 thank [18] 1975:17, 24; 1976:1; 1978:5; 1979:18; 1980:2; 1987:10, 16; 1993:9, 11; 2041:11; 2053:1; 2058:7; 2063:18; 2064:1; 2088:12; 2094:9, 22 thanks [1] 1941:18 that's [45] 1940:14; 1941:17; 1942:19; 1944:18; 1945:1, 4, 14; 1946:3, 5, 12; 1947:24; 1950:3; 1951:19; 1954:7; 1956:19; 1959:2; 1961:1; 1967:7, 12; 1970:1; 1977:8, 12, 23; 1978:10, 13; 1979:20; 1985:19; 1986:12; 1987:13; 2043:5; 2048:9, 21; 2048:22; 2051:10;</p>	<p>21, 25; 2052:15; 2053:11; 2057:15; 2058:7; 2061:10; 2062:7, 18 their [20] 1939:12; 1955:7, 9, 10; 1956:7; 1960:18; 1963:5; 1966:1; 1971:25; 1980:13; 1983:5, 7; 1985:12; 1989:8; 2062:15; 2085:18; 2090:22; 2091:17; 2094:1 theme [1] 1991:21 themes [1] 1989:24 themselves [1] 1991:9 theories [1] 1970:19 there [84] 1940:8, 20; 1941:4, 13, 14, 16; 1942:25; 1943:1, 22, 25; 1944:14, 23; 1945:2; 1946:14, 17; 1948:11; 1953:15; 1958:18; 1959:16; 1960:21; 1961:13, 17; 1962:19; 1963:16; 1967:16, 17; 1968:8; 1969:22; 1970:9, 10, 18; 1971:8, 8, 20, 21; 1972:18; 1973:16; 1975:4, 6, 9; 1978:21; 1979:2, 21; 1979:7, 20; 1980:23; 1982:5; 1983:11, 12, 25; 1985:22; 1986:4, 13; 1990:24; 1991:4; 2042:22, 25; 2044:16, 21; 2048:11; 2050:5; 2052:1, 6, 9, 13, 2054:3; 2060:3, 23; 2061:30; 2067:9, 17, 19; 2068:5, 7; 2069:10; 2090:1, 8; 2091:8 therefore [1] 2084:25 therein [1] 2085:23 theresupon [2] 1978:9; 2085:4 they've [1] 1959:10 thing [17] 1948:14; 1950:24; 1954:9; 1959:20; 1961:6; 1964:3; 1969:9, 23; 1971:8, 9; 1974:4; 1977:17; 1987:10; 1991:8; 2062:7; 2086:20; 2088:18 things [17] 1939:11; 1958:1, 10; 1961:10; 1965:14; 1972:17; 1982:22; 1983:18, 25; 1984:9; 1986:9; 1991:11; 1992:9, 21; 2057:11, 12; 2057:8 think [8] 1940:24; 1941:17; 1945:10, 11; 1948:10; 1950:8; 1951:15, 25; 1953:20; 1955:10, 12; 1956:4, 20, 23, 25; 1957:7, 8, 10, 13, 19, 20, 25; 1958:1, 4, 8, 9; 1960:5; 1961:20; 1962:8, 15, 18; 1968:11, 16; 1969:6, 18, 20, 25; 1970:19, 20, 22; 1971:5; 1972:3, 5, 17, 19, 24; 1978:8; 1980:22; 1981:1; 1983:2, 23; 1984:2, 5; 1986:12, 13; 1989:24; 1991:8; 2044:2, 6; 2049:9; 2047:15; 2048:18; 2050:18, 22, 24; 2051:1; 2053:2; 2057:15; 2059:10; 2060:3, 23; 2063:8; 2064:7, 9, 14; 2090:24, 25; 2091:14, 15, 18 thinking [4] 1986:16; 1987:21; 1970:15; 1973:14 third [2] 1986:5; 2052:7 those [47] 1939:18, 21; 1943:17; 1944:20; 1945:12; 1947:1, 23; 1952:19; 1954:2; 1957:20; 1959:11, 17; 1961:10; 1963:22; 1965:15; 1969:1, 17; 1972:17, 20; 1979:22, 23, 25; 1981:21; 1982:1; 1983:9; 1984:18; 1988:16; 1989:20; 2041:2; 2048:15; 2048:3, 25; 2053:13, 17; 2057:12; 2060:9; 2061:19; 2064:18, 24; 2085:15, 20; 2087:12, 18; 2089:20; 2090:4 though [8] 1958:21; 1968:13; 1968:9;</p>
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<p>subaldize [1] 1939:23 subaldized [1] 1939:23 subaldizing [1] 1940:1 subaldy [18] 1940:2; 1942:17; 1943:13; 1944:7, 16; 1945:16; 1952:21; 1957:21; 1959:11, 18; 1960:12; 1961:4, 7, 23; 1989:15; 2084:25; 2085:24; 2088:3 substance [1] 2054:15 substantial [1] 1964:18 substantially [1] 1992:12 subtract [1] 1950:18 such [9] 1940:4; 1941:10; 1953:29; 1962:7; 1980:18; 1982:12; 2049:2, 4, 8 sufficiency [1] 2084:17 sufficient [3] 1941:8, 14; 2057:19 suggest [5] 1939:9; 1953:23; 1982:23, 24; 1991:8 suggested [1] 2091:22 suggesting [1] 1986:11 suggestion [1] 1991:11 suggests [2] 1991:11; *1982:25 suite [1] 1987:14 sum [1] 2055:11 summarize [2] 1980:3; 1988:18 summarizing [1] 1984:13 summary [7] 1984:24; 1985:1; 1987:17; 2054:18; 2084:10; 2084:8; 2093:17 summers [2] 1983:6, 7 summit [1] 2048:1 superseding [1] 1987:4 supplier [2] 1940:11, 25 suppliers [1] 1941:4 supply [1] 1975:1 supplying [2] 1940:10; 1988:23 support [8] 1948:20; 1957:14; 1980:18; 1992:10; 2042:10; 2084:17 suppose [2] 1984:25; 1974:4 supposed [3] 1980:12; 1984:13, 24 sure [17] 1939:11; 1945:11; 1948:8; 1949:18; 1952:11; 1955:20; 1957:8; 1961:8; 1988:14; 1974:3; 2048:18;</p>	<p>t [14] 1840:12; 1947:13; 1949:6; 1952:22; 1963:18; 1964:6, 23; 1968:28; 1971:24; 1973:17; 1974:1; 1979:25; 1988:10; 1989:3 t's [1] 1979:3 t-1 [8] 1981:12, 18, 20, 23; 1982:5; 2081:1 t-a-r-d-d-f-f [2] 1979:18, 23 table [5] 1979:20, 21; 2041:4, 9; 2093:9 tailor [1] 1950:1 take [21] 1939:11; 1941:10; 1943:10; 1948:20; 1950:25; 1959:1; 1962:12; 1964:7; 1965:18; 1970:12; 1971:15; 1972:22, 24; 1982:7; 1990:25; 2056:17; 2058:4; 2067:20; 2088:21; 2090:20; 2092:11 takes [2] 1980:13; 1970:21 talk [2] 1970:23; 2048:21 talked [6] 1940:24; 1982:13; 1954:20, 22; 1979:7 talking [16] 1941:9; 1947:7; 1959:7; 1979:18, 19; 1974:15; 1986:12; 2048:20; 2053:28; 2054:2; 2059:21; 2060:12; 2061:2, 12; 2062:9; 2090:14 tallahassee [2] 1936:20; 2064:24 tandem [2] 1978:19, 25 tandems [2] 1978:21; 1980:16 tardiff [23] 1937:7, 9; 1978:4, 10, 15, 16, 18, 22, 25; 1977:17; 1978:9; 1979:18, 22; 1987:18, 18; 1993:11; 2041:21, 25; 2045:7; 2056:13, 18 tardiff's [2] 1993:12; 2041:24 target [4] 1943:23; 1944:20; 1958:22; 2044:21 targeted [2] 1949:25; 1950:5 targets [1] 1959:11 tariff [1] 2082:22 tax [12] 1953:14, 17; 1954:8, 9; 1958:11, 17; 1974:7, 14, 18; 1975:15 taxing [1] 1974:20 taylor [8] 1937:4; 1939:3, 17, 25; 1940:23; 1941:7, 22; 1942:7, 19, 24; 1943:4, 9, 17; 1944:1, 5, 13, 17; 1945:1, 10, 18, 24; 1946:2, 24; 1947:3,</p>	<p>20, 24; 1948:4, 21, 25; 1949:23; 1950:22; 1961:3, 18, 24; 1962:8, 16; 1953:2, 9; 1954:4; 1955:2, 12; 1958:3; 1957:8, 13; 1958:9, 17, 24; 1959:2, 19; 1960:2, 23; 1961:1; 1962:1; 1963:2, 11, 17; 1964:5, 15, 21; 1965:9, 12, 17, 22, 25; 1966:4, 23; 1967:7, 12, 20; 1968:4; 1969:3, 8; 1970:2; 1971:2, 8; 1972:10, 15, 23; 1973:20; 1974:3, 12, 17, 1975:6, 11, 24; 1976:1; 2064:13 team [3] 2055:18, 23 technologies [2] 1985:7, 11 technology [7] 1973:25; 1974:4; 1980:14; 1981:13, 21; 1988:5, 7 telecommunication [1] 1989:20 telecommunications [4] 1936:5; 1953:13; 1993:9; 2087:3 telephone [6] 1963:7; 1982:6; 1983:9; 1982:9; 2052:10; 2054:5 tell [8] 1964:16; 1971:18; 1978:14; 1988:9; 2042:13; 2091:2 telling [2] 1960:8; 2057:18 tells [4] 1956:14; 2043:24; 2044:2, 25 ten [2] 1982:24; 2089:6 tender [1] 2041:13 term [2] 1941:20; 2047:23 terminal [1] 1981:25 terminals [5] 1980:25; 1981:3, 4, 7; 2050:17 terms [1] 1967:23 terribly [2] 1948:8; 1948:14; 1951:4 territory [1] 1980:10 terrify [1] 1936:14 test [5] 1957:17; 1958:2, 5; 1980:18; 1983:8 tested [2] 1957:11, 22 testified [2] 1978:12; 2065:7 testify [2] 1984:19; 2041:8 testimony [7] 1937:9, 11, 17, 18; 1939:4; 1941:25; 1986:22; 1976:25; 1977:3, 14, 15; 1978:8, 11, 18, 17; 1979:5, 8, 11; 1980:3; 1983:18, 22; 1984:2, 8, 11, 12, 17, 18, 25; 1988:2, 7, 10, 11, 18, 18, 21; 1987:17, 20; 1989:24; 1990:3; 1991:16; 1993:4, 13, 15, 16; 2041:12, 15; 2042:1, 13, 23; 2045:2, 6, 8, 12; 2048:6; 2047:13; 2050:2, 8; 2052:13, 15; 2058:18; 2063:22; 2065:13, 15, 21; 2066:2; 2084:9, 11; 2087:2; 2088:15; 2092:13; 2093:17 testing [1] 1957:5 tests [1] 2043:17 text [1] 2052:2 thank [18] 1975:17, 24; 1976:1; 1978:5; 1979:18; 1980:2; 1987:10, 16; 1993:9, 11; 2041:11; 2053:1; 2058:7; 2063:18; 2064:1; 2088:12; 2094:9, 22 thanks [1] 1941:18 that's [45] 1940:14; 1941:17; 1942:19; 1944:18; 1945:1, 4, 14; 1946:3, 5, 12; 1947:24; 1950:3; 1951:19; 1954:7; 1956:19; 1959:2; 1961:1; 1967:7, 12; 1970:1; 1977:8, 12, 23; 1978:10, 13; 1979:20; 1985:19; 1986:12; 1987:13; 2043:5; 2048:9, 21; 2048:22; 2051:10;</p>	<p>21, 25; 2052:15; 2053:11; 2057:15; 2058:7; 2061:10; 2062:7, 18 their [20] 1939:12; 1955:7, 9, 10; 1956:7; 1960:18; 1963:5; 1966:1; 1971:25; 1980:13; 1983:5, 7; 1985:12; 1989:8; 2062:15; 2085:18; 2090:22; 2091:17; 2094:1 theme [1] 1991:21 themes [1] 1989:24 themselves [1] 1991:9 theories [1] 1970:19 there [84] 1940:8, 20; 1941:4, 13, 14, 16; 1942:25; 1943:1, 22, 25; 1944:14, 23; 1945:2; 1946:14, 17; 1948:11; 1953:15; 1958:18; 1959:16; 1960:21; 1961:13, 17; 1962:19; 1963:16; 1967:16, 17; 1968:8; 1969:22; 1970:9, 10, 18; 1971:8, 8, 20, 21; 1972:18; 1973:16; 1975:4, 6, 9; 1978:21; 1979:2, 21; 1979:7, 20; 1980:23; 1982:5; 1983:11, 12, 25; 1985:22; 1986:4, 13; 1990:24; 1991:4; 2042:22, 25; 2044:16, 21; 2048:11; 2050:5; 2052:1, 6, 9, 13, 2054:3; 2060:3, 23; 2061:30; 2067:9, 17, 19; 2068:5, 7; 2069:10; 2090:1, 8; 2091:8 therefore [1] 2084:25 therein [1] 2085:23 theresupon [2] 1978:9; 2085:4 they've [1] 1959:10 thing [17] 1948:14; 1950:24; 1954:9; 1959:20; 1961:6; 1964:3; 1969:9, 23; 1971:8, 9; 1974:4; 1977:17; 1987:10; 1991:8; 2062:7; 2086:20; 2088:18 things [17] 1939:11; 1958:1, 10; 1961:10; 1965:14; 1972:17; 1982:22; 1983:18, 25; 1984:9; 1986:9; 1991:11; 1992:9, 21; 2057:11, 12; 2057:8 think [8] 1940:24; 1941:17; 1945:10, 11; 1948:10; 1950:8; 1951:15, 25; 1953:20; 1955:10, 12; 1956:4, 20, 23, 25; 1957:7, 8, 10, 13, 19, 20, 25; 1958:1, 4, 8, 9; 1960:5; 1961:20; 1962:8, 15, 18; 1968:11, 16; 1969:6, 18, 20, 25; 1970:19, 20, 22; 1971:5; 1972:3, 5, 17, 19, 24; 1978:8; 1980:22; 1981:1; 1983:2, 23; 1984:2, 5; 1986:12, 13; 1989:24; 1991:8; 2044:2, 6; 2049:9; 2047:15; 2048:18; 2050:18, 22, 24; 2051:1; 2053:2; 2057:15; 2059:10; 2060:3, 23; 2063:8; 2064:7, 9, 14; 2090:24, 25; 2091:14, 15, 18 thinking [4] 1986:16; 1987:21; 1970:15; 1973:14 third [2] 1986:5; 2052:7 those [47] 1939:18, 21; 1943:17; 1944:20; 1945:12; 1947:1, 23; 1952:19; 1954:2; 1957:20; 1959:11, 17; 1961:10; 1963:22; 1965:15; 1969:1, 17; 1972:17, 20; 1979:22, 23, 25; 1981:21; 1982:1; 1983:9; 1984:18; 1988:16; 1989:20; 2041:2; 2048:15; 2048:3, 25; 2053:13, 17; 2057:12; 2060:9; 2061:19; 2064:18, 24; 2085:15, 20; 2087:12, 18; 2089:20; 2090:4 though [8]</p>

1971:18; 1973:9, 22; 2002:25; 2006:3 thought [3] 1989:16; 1990:22; 2048:4 thoughts [1] 1948:18 three [2] 1982:23; 2006:18 three-quarters [1] 1998:18 through [12] 1936:11; 1972:18, 19; 1979:9; 2042:13, 18, 24; 2094:2; 2098:7, 20 throughout [1] 1980:23 throw [1] 2000:4 thus [1] 1974:7 tied [1] 1940:18 tim [1] 1979:4 time [17] 1938:18; 1982:23; 1990:14; 1999:17; 1972:18; 1981:14; 1982:28; 1985:9; 1988:4, 5; 1988:16; 1989:11; 2003:15; 2004:23; 2008:2; 2092:5, 8 times [1] 2002:20 timing [2] 2091:13, 21 Timothy [4] 1937:7; 1976:10, 18, 22 to-1 [1] 1980:1 to-2 [4] 1978:16, 18; 2001:22; 2000:28 today [17] 1939:11; 1945:7; 1998:8; 1973:18; 1981:19; 1990:14; 2044:4; 2048:1, 5, 21; 2057:4, 7, 19; 2095:24; 2084:18, 20; 2098:2 today's [2] 2044:16; 2098:25 together [3] 1940:7; 1941:12; 1984:23 told [1] 2048:8 toll [11] 1949:1, 5, 10; 1980:4; 1983:13; 1985:2; 1988:7; 1988:9; 2004:22; 2088:9; 2092:25 tomorrow [1] 2004:24 tone [1] 1959:8 tonight [1] 2004:18 took [3] 1990:19; 1973:2; 2090:7 tool [2] 2043:7 top [4] 1998:3; 2053:8; 2054:14; 2058:15 toss [1] 1991:3 total [16] 1948:18; 1953:7; 1954:8; 1958:9, 10, 18; 2059:9; 2090:1, 2, 7; 2064:13; 2085:14, 18, 18; 2094:4 totally [2] 1983:23; 1982:5 touched [1] 1991:20 touching [1] 1991:21 tower [1] 1988:25 tracy [1] 1988:1 trade [1] 2001:2 traditional [1] 1981:20 traffic [2] 2049:18, 21 transcript [2] 1939:2; 2094:28 transmission [3] 2050:8; 2059:23; 2089:3 transport [1] 1979:4 tree [1] 1990:17 tried [1] 1971:24 tries [1] 1972:5 trouble [1] 1998:1 true [8] 1988:12; 2050:18, 18, 22; 2051:11, 18; 2099:12; 2091:7 trunking [1] 1980:20 truth [1] 1970:11 try [7] 1948:20; 1948:9; 1981:21; 1988:2; 1988:11; 2042:17; 2091:20 trying [10] 1954:14; 1958:12; 1988:24;	1970:17; 1972:4; 1975:1; 1982:21; 2043:1; 2048:3; 2091:13 turn [8] 1983:12; 2042:12; 2051:22; 2053:9; 2054:13; 2058:14; 2085:4; 2089:8 turned [1] 1983:9 turnover [1] 1983:3 twice [3] 1991:18; 2044:7; 2091:18 twisting [1] 1999:12 two [38] 1982:23; 1983:18; 1987:20, 25; 1978:2; 1978:19; 1980:25; 1981:8; 1985:4, 22, 23; 1990:3; 1992:7, 24; 1993:13; 2043:8; 2045:15; 2046:1; 2052:1; 2053:10, 13, 17, 21; 2054:8; 2058:13; 2058:12, 14; 2060:7, 9, 13, 18; 2061:9, 19; 2064:20; 2091:7 type [10] 1988:11; 1989:19; 1989:9; 2044:11; 2048:23; 2054:4; 2063:5, 8; 2067:8 types [4] 1982:10; 2060:7, 8, 18 typically [1] 2099:25	unrealistic [1] 1993:8 unregulated [1] 1941:13 unsustainable [1] 2084:24 until [2] 1985:8; 1988:15 up [24] 1939:16; 1954:25; 1957:2; 1960:19; 1962:18; 1963:4; 1970:3, 15, 18; 1973:14, 17, 18; 1974:13, 23, 24; 1975:18; 1976:8; 1979:19; 1987:25; 1988:14; 1988:29; 2044:22; 2090:1; 2084:21 update [1] 2093:8 updated [2] 2092:19; 2093:1 updates [1] 1985:16 upon [3] 1943:15; 1954:5; 2084:8 upper [1] 2052:4 urban [1] 1953:1 urge [1] 2060:25 usage [2] 1940:13; 1954:7 use [19] 1941:16, 20; 1943:6; 1953:11; 1954:2; 1962:8; 1982:8; 1987:8; 2042:21; 2044:10, 11; 2047:7, 11; 2054:20; 2062:14, 15, 21; 2086:23; 2087:2 used [11] 1942:8; 1962:18; 1979:12; 1985:19; 1993:3; 2052:18, 19; 2053:2, 17, 21; 2088:9 useful [3] 1948:14, 21; 1971:13 user [2] 1939:9; 1981:8 users [7] 1953:5, 13; 1963:7; 2048:11; 2085:9 uses [8] 1980:14; 1988:5, 6; 2058:9; 2058:2, 3 usf [11] 2042:21; 2044:12; 2088:16; 2089:18, 21; 2090:22, 25; 2091:7, 11, 12; 2092:1 using [10] 1951:8; 1973:13; 1988:11, 20; 2044:1; 2047:3; 2050:17; 2054:20; 2087:18; 2094:2 utility [2] 1991:16, 17	1954:7; 1957:19; 1980:14, 15; 1970:12; 1973:24; 1987:5, 17; 1982:10, 21; 2044:8; 2053:25; 2064:8; 2085:13; 2088:19; 2088:4; 2092:12 via [1] 1988:25 vicinity [1] 2099:10 vicissitudes [1] 2098:25 view [8] 1941:24; 1945:14; 1953:9; 1973:5, 8; 1984:17 violates [1] 1988:3 violation [1] 2087:24 vis-a-vis [1] 1988:9 visit [1] 1977:21 voice [7] 2049:11, 23; 2059:23; 2091:2, 4, 22; 2092:13 volume [12] 1938:10; 1938:1; 1939:2, 4; 1951:8, 12; 1953:8; 1988:2; 1988:25; 2058:1; 2094:25
- W -			
			w [4] 1937:18; 1977:19; 2065:5, 12 wall [1] 1998:13 wallowing [3] 1959:24; 1980:11; 1971:21 walve [1] 1939:13 walk [1] 1948:3 walks [1] 1948:4 want [27] 1941:12; 1944:20; 1948:3, 18; 1959:9; 1960:7, 8, 11, 18, 17; 1961:5; 1962:10; 1965:18; 1968:18, 19; 1969:10; 1970:14; 1971:5; 1973:18; 1983:10; 2044:21; 2055:16; 2062:12, 14; 2084:13, 15 wanted [2] 1985:14; 1986:4 wants [9] 1940:18; 1948:4; 1959:13, 14, 15; 1988:5, 21; 2064:15 war [1] 1940:11 wary [1] 1988:24 washington [2] 1950:14; 1974:21 wasn't [2] 1974:11; 2049:14 watching [1] 1972:3 way [24] 1938:20; 1940:14; 1943:18; 1950:4, 8; 1954:14, 15, 18; 1988:4; 1981:12; 1982:12; 1987:1, 8; 1970:18; 1972:13; 1983:21; 1984:8; 1991:12; 1992:8; 1993:3; 2041:23; 2042:3; 2064:10; 2094:1 we're [1] 1939:25 wednesday [1] 1930:17 weak [1] 1977:21 weight [1] 1974:21 went [1] 1987:3 were [30] 1939:10; 1940:23; 1943:18; 1948:12, 13; 1949:23; 1952:9; 1955:16, 22, 25; 1958:8; 1991:9; 1992:22; 1974:16; 1978:11; 1981:15; 1982:13; 1985:11; 1985:1, 7, 25; 2043:1; 2047:10, 11; 2062:8; 2064:25; 2088:1; 2089:17; 2087:11 weren't [1] 2044:12 west [2] 1938:24; 1940:15 what's [2] 1989:3; 1982:7 whatever [18] 1941:11; 1947:11; 1982:3; 1982:11; 1985:22; 1987:16; 1981:5; 1984:7; 1985:19; 1989:13;
- U -			
	u [2] 1940:15; 1974:19 ultimate [1] 1985:20 ultimately [1] 1982:15 unbundled [2] 1989:2; 2088:8 uncertainty [1] 2057:11 under [5] 1939:4; 1942:22; 1947:9; 1967:23; 2064:14 underscores [2] 1979:1, 2 understand [17] 1944:3; 1956:4; 1989:18; 1984:8; 1988:22; 1970:17; 1977:13; 2041:21; 2043:11; 2048:18, 17; 2051:8; 2053:7; 2054:1, 15; 2085:9; 2090:1 understandable [1] 1972:14 understanding [8] 1979:17; 2041:5; 2048:11, 13, 14 understated [4] 1978:24; 1980:11, 16, 21 undertake [1] 2093:5 undertaken [1] 2093:5 undertook [1] 2085:12 undo [2] 1948:19; 1982:12 une [5] 2088:19; 2089:17; 2090:21; 2091:2, 6 unes [8] 2042:21; 2088:13; 2089:22; 2091:11, 12, 17, 23; 2092:3 unexpected [1] 2057:20 until [4] 1982:22; 1985:22, 24; 2088:8 untils [8] 1982:11, 13, 20; 1983:1, 8; 2082:20 universal [48] 1941:5, 20; 1947:8; 1950:5, 10; 1952:10, 13; 1953:9; 1955:18; 1958:22; 1957:2, 18; 1959:12; 1962:4, 8, 8; 1968:22; 1968:8, 9; 1971:13; 1974:8; 1987:23; 1989:18; 2041:23; 2042:4, 8, 10; 2047:3, 12, 17; 2059:21; 2062:9; 2063:2, 14; 2064:18, 18, 28; 2088:2, 24; 2088:5, 8, 10; 2088:8, 12; 2091:21 unless [8] 1942:21; 1991:16, 18; 1988:8; 1988:9; 2091:7		
- U -			
			vacancies [1] 1983:4 vacant [3] 1982:22; 1983:1, 9 valid [2] 1987:21; 1990:2 validate [2] 2055:21, 22 validation [4] 1989:28; 1990:4, 15; 1993:7 validity [2] 2043:16, 17 value [3] 1979:2; 2054:17; 2058:24 values [3] 1993:2; 2054:17; 2055:19 variable [1] 2087:19 various [1] 1982:24 vary [1] 1942:13 vast [1] 2085:8 venal [1] 1978:18 vendor [1] 2055:20 version [7] 1979:1; 1985:12, 13; 1991:23, 24; 1992:1 versions [1] 1982:24 versus [5] 1984:21; 1989:14; 2043:23; 2047:2; 2091:13 vertical [4] 1949:1; 1959:10; 1981:8; 1987:25 ver [20] 1948:18; 1951:5; 1952:12;

<p>1974:5, 8, 12; 2054:8 when [38] 1941:19; 1946:17; 1947:17; 1950:17, 19; 1951:21; 1954:1, 20; 1955:15; 1958:22; 1958:12; 1960:16; 1961:12, 13; 1963:4, 13; 1966:25; 1967:5; 1970:8, 13; 1963:5, 7, 9; 1965:23; 1968:15; 1991:7; 2043:19; 2045:10; 2046:18; 2049:10, 20; 2050:4, 8, 15, 19; 2053:23; 2058:5 whenever [1] 1969:25 where [28] 1940:13; 1941:3; 1949:19; 1966:18, 1962:14; 1970:1, 25; 1971:19; 1972:24; 1973:13, 15; 1974:25; 1981:23; 1982:11; 2044:20, 22; 2045:24; 2048:17; 2051:8; 2057:15, 21; 2063:16; 2090:12 whereas [2] 1957:18; 1982:4 wherever [1] 1964:1 whether [10] 1967:14, 21; 1988:13; 1989:25; 1991:2; 1992:14; 1994:15; 2048:3; 2048:4; 2048:1; 2050:5; 2054:8; 2055:13; 2061:19; 2090:14 while [4] 1979:12; 1973:14; 1978:5; 2098:25 whistle [1] 1947:19 whoever [4] 1948:11; 1948:10; 1963:17; 1988:21 whole [4] 1964:11; 1988:10; 1989:1; 1990:18 whose [1] 1940:2 willam [2] 1937:4; 1939:3 williams [16] 1937:8; 1976:2, 14; 1983:23; 1984:10, 14; 1988:5, 15; 1987:9; 1993:11; 2041:3, 11; 2053:2; 2063:19, 21; 2064:1 willing [8] 1939:23; 1991:1; 1992:15; 1995:7, 14; 2090:18 windfall [1] 1949:13 wins [1] 1944:19 winters [1] 1963:7 wire [28] 1943:8, 11, 14, 15; 1944:9, 11, 16; 1945:2; 1950:25; 1991:1, 11; 1994:1, 11; 1965:21; 1998:5, 7, 19; 1967:22; 1968:13; 1980:13; 2088:17; 2089:19, 21, 24; 2090:3, 4; 2091:1 wires [1] 1992:11 wise [2] 1988:8, 10 withdraw [1] 2053:3 within [9] 1945:1; 1984:7, 11; 1985:1; 2047:16; 2050:25; 2054:4; 2058:17; 2090:4 without [8] 1961:7; 1973:7; 2063:25; 2094:14, 19 witnes [105] 1937:9, 11; 1939:17, 29; 1940:23; 1941:7, 22; 1942:7, 19, 24; 1943:4, 9, 17; 1944:1, 5, 13, 17; 1945:1, 10, 18, 24; 1946:2, 24; 1947:3, 20, 24; 1948:4, 21, 25; 1949:23; 1950:22; 1991:3, 18, 24; 1952:8, 16; 1953:2, 9; 1954:4; 1955:2, 12; 1958:3; 1957:8, 13; 1958:9, 17, 24; 1959:2, 19; 1960:2, 23; 1961:1, 8; 1962:1; 1963:2, 11, 17; 1964:5, 15, 21; 1965:8, 12, 17, 22, 25; 1966:4, 13, 23; 1967:7, 12, 20; 1968:4, 16; 1969:3, 8; 1970:2, 13; 1971:2, 8; 1972:10, 15, 23; 1973:20;</p>	<p>1974:3, 12, 17; 1975:6, 11; 1976:1, 7, 18; 1978:7; 1984:24; 1985:3, 4; 1988:19; 1987:13, 18; 2041:5, 25; 2048:10; 2050:18; 2055:2, 3, 6 witnesses [8] 1937:2; 1976:2, 11; 1983:24; 1984:17; 2041:13 won't [10] 1941:3, 4; 1946:8; 1952:23; 1980:13, 14; 1986:11; 1989:11; 1984:4; 1988:24 wonderful [1] 1987:2 wondering [1] 1946:13 wood [3] 1959:4, 6; 1982:20 wooden [1] 1960:21 woods' [1] 1979:11 word [5] 1972:9, 10; 2082:4; 2093:24, 25 words [8] 1960:14; 1961:11, 13; 1982:17; 1973:11; 2054:5 work [5] 1940:15; 1958:20; 1967:3; 2058:17, 19 working [2] 1989:24; 2052:9 works [3] 1960:15; 1971:11; 1978:1 world [3] 1940:23; 1974:5; 1990:24 worried [1] 1971:16 worries [1] 1988:12 worry [3] 1958:19; 1971:17; 1972:20 worth [3] 1949:5; 2058:12, 14 worthwhile [1] 1991:7 would [130] 1939:13; 1940:24; 1941:12; 1943:18; 1944:18, 20; 1946:7; 1947:9, 10, 11, 12, 13; 1948:23; 1991:7, 19; 1952:1, 3; 1954:23, 24; 1955:11, 18, 19; 1956:8, 8, 15, 17, 19; 1957:1, 6, 19; 1958:8, 9, 10, 11, 15; 1960:4, 6; 1961:21; 1964:15; 1965:14, 19; 1966:14, 17, 23; 1967:2; 1969:18; 1970:23; 1972:23, 25; 1973:8, 21; 1974:9; 1975:20; 1978:3; 1991:5, 24; 1982:9, 23; 1983:2, 3, 11, 12; 1985:15, 16; 1987:12; 1989:19, 21, 24; 1989:2, 3, 6; 1990:22, 24; 1991:3, 18; 1993:12, 14; 2041:13; 2044:11, 18; 2048:5; 2047:2, 10, 13; 2048:5, 23; 2049:5; 2050:24; 2053:5, 20; 2054:13; 2055:5, 9; 2056:3; 2059:23; 2060:1, 2, 6, 8, 16, 17, 22, 25; 2061:18; 2062:7, 13; 2065:24; 2064:24; 2066:5; 2067:8, 16, 18; 2068:17; 2069:8, 7, 15, 20; 2090:5, 8, 24; 2093:24, 25; 2094:13, 17 wouldn't [11] 1939:8; 1947:9, 14; 1948:13, 14; 1949:1; 1954:12; 1956:17; 1967:12; 2061:4; 2062:8 write [1] 2063:2 wrong [6] 1991:1; 1994:17; 1999:3; 1971:19; 2067:9; 2091:11</p>	<p>year [3] 1991:13; 1985:9; 1992:23 years [7] 1942:21; 1952:23, 24; 1970:24; 1972:12; 1973:4 yesterday [3] 1973:14; 1989:5; 1991:12 yet [8] 1939:23; 1970:10; 1976:8; 1981:21; 1982:13; 2049:18; 2090:12; 2087:11 yield [1] 2092:7 yikas [1] 1965:12 you've [2] 1982:5; 2057:2 yourself [1] 1977:10</p> <hr/> <p>- Z -</p> <hr/> <p>zones [5] 2053:10, 13, 17, 22; 2054:5</p>	
<p>Elle Concordia Utility - CONCORD3</p>	<p>- X -</p> <p>x [1] 1937:1 xia [1] 1979:2</p> <p>- Y -</p>		