BEFORE THE WASHINGTON STATE

UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of the Review of Unbundled Loop and Switching Rates; the Deaveraged Zone Rate Structure; and Unbundled Network Elements, Transport, and Termination (Recurring Costs)	))))))	DOCKET NO. UT-023003 Volume XIV Pages 993 to 1210

A hearing in the above matter was held on June 2, 2004, from 9:35 a.m to 6:00 p.m., at 1300 South Evergreen Park Drive Southwest, Room 206, Olympia, Washington, before Administrative Law Judge THEODORA MACE and Chairwoman MARILYN SHOWALTER and Commissioner RICHARD HEMSTAD and Commissioner PATRICK J. OSHIE.

The parties were present as follows:

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P R O C E E D I N G S

JUDGE MACE: Let's be on the record in Docket Number UT-023003. This is the Review of Unbundled Loop and Switching Rates and Review of the Deaveraged Zone Rate Structure also known as the Recurring Cost Docket. Today is June 2nd, 2004, and we are convened for evidentiary hearing at the offices of the Washington Utilities and Transportation Commission in Olympia, Washington.

Since this is the beginning of our second week, I would just like to have oral appearances at this point, brief oral appearances.

MS. RONIS: Yes, good morning. Catherine Kane Ronis of Wilmer Cutler Pickering Hale & Dorr, LLP on behalf of Verizon. And with me today is my colleague, Bill Richardson. He will be appearing later today.

JUDGE MACE: Thank you.

MR. KOPTA: Gregory J. Kopta of the law firm Davis, Wright, Tremaine, LLP on behalf of AT&T. And also appearing with me later this afternoon will be Mary Steele.

JUDGE MACE: Thank you.

MS. FRAME: Karen Frame with Covad Communications Company.

MS. SMITH: Shannon Smith, Assistant Attorney General, here on behalf of Commission Staff.

JUDGE MACE: Is there anyone who wishes to enter an appearance who is on the conference bridge?

Okay, it sounds like there isn't anyone on the conference bridge.

We just wanted to explain for the benefit of the commissioners who are on the Bench with me, we have some revised testimony from Staff this morning, and we also have, and Staff will explain further when Mr. Spinks is presented, also we have two responses to Bench requests that were directed to Dr. Selwyn, and I just wanted to make sure the Commissioners were aware that they had that in front of them as well.

I want to also just briefly address the response to the Bench Request Number 3, which was:

Provide revised tables in Exhibits 655 and 651T reflecting corrections to the erroneous data for SBC that was discussed during the evidentiary hearings. Please include workpapers describing how the calculations were developed.

It's a fairly voluminous response, Mr. Kopta, and I wanted to find out from you exactly what was

included in the response.

MR. KOPTA: Certainly, Your Honor. What Dr. Selwyn did was if you see the first few pages that are numbered BR3-1 through 10 was to provide an explanation of how he corrected the numbers and how those fit, those corrected numbers fit into the analysis that he had conducted. Following those pages are corrections to Dr. Selwyn's testimony in a redlined format that simply update the numbers that changed as a result of his corrections. Then following those pages are corrections to attachment 4 to his testimony, which is Exhibit 655. This is the entire exhibit, not all of which was changed, but for the interest of completeness he just included the entire exhibit with the changes that he discussed in his explanation.

He also prepared a redline of this Exhibit 655 which we have provided to counsel for Verizon, but if the Commission would find that useful we can also provide that to the Commission so that you can see what Dr. Selwyn changed.

JUDGE MACE: I think it probably would be beneficial for us to have that.

MR. KOPTA: Then we will provide copies of that later today or tomorrow.

JUDGE MACE: All right, thank you.

Is there anything preliminary before we go ahead with Mr. Spinks who is our first scheduled witness today?

If not, then, Mr. Spinks, would you please stand.

Whereupon,

THOMAS L. SPINKS,

having been first duly sworn, was called as a witness herein and was examined and testified as follows:

D I R E C T E X A M I N A T I O N

BY MS. SMITH:

Q. Good morning, Mr. Spinks.

A. Good morning.

Q. Could you please state your name and give your employer and position for the record, please.

A. My name is Thomas Spinks. My employer is the Washington Utilities and Transportation Commission, 1300 South Evergreen Park Drive, P.O. Box 47250, Olympia, Washington.

Q. Do you have before you what's been pre-marked in this docket as Exhibit 1052, Exhibit 1056T, Exhibit 1057, Exhibit 1058, Exhibit 1059, Exhibit 1062, Exhibit 1063C, and Exhibit 1065T?

A. Yes, I do.

Q. Do you have any corrections to those exhibits?

A. Yes, I do. In my response testimony Exhibit 1062T at page 9, page 8, line 12, through page -- from lines 12 to line 19, I'm striking that testimony.

JUDGE MACE: Mr. Spinks, your counsel has provided us with pages that show the strike throughs of that, that can be substituted into your testimony?

THE WITNESS: Yes.

JUDGE MACE: All right, thank you.

A. And on page 9 at line 6 and 7 of that testimony, there's some strikeout too.

And in the rebuttal testimony Exhibit 1065T beginning on page 9, line 8, and following through page 10, line 4, that is also struck from my testimony.

And that's all of the changes.

BY MS. SMITH:

Q. Mr. Spinks, were those exhibits prepared by you or under your direction?

A. Yes, they were.

Q. And taking into account the previously filed revisions to this testimony and your corrections on the stand today, if I were to ask you the same questions that are in your testimony today, would your answers be

the same?

A. Yes, they would.

MS. SMITH: Your Honor, I move the admission of Exhibit 1052, 1056T, 1057, 1058, 1059, 1062T, 1063C, and 1065T.

JUDGE MACE: Is there any objection to the admission of those exhibits?

MS. RONIS: No objection.

JUDGE MACE: Hearing no objection, I will admit those exhibits.

MS. SMITH: Mr. Spinks is available for cross-examination.

JUDGE MACE: Does he have a summary that he's presenting or not?

MS. SMITH: No, he did not prepare a summary.

JUDGE MACE: And Verizon cross-examination, I have down 45 minutes for Verizon and 15 minutes for AT&T, is that still a good time estimate?

MS. RONIS: Yes.

MR. KOPTA: We probably won't have any questions, but we'll wait and see.

JUDGE MACE: Very well, go ahead.

C R O S S - E X A M I N A T I O N

BY MS. RONIS:

Q. Good morning, Mr. Spinks.

A. Good morning.

Q. Now you filed direct testimony in this proceeding on June 26, correct?

A. Of 2003.

Q. 3?

A. Yes.

Q. And in your direct testimony filed on June 26, 2003, you recommended that the Commission adopt the Hatfield model with some adjustments, correct?

MS. SMITH: Your Honor, I would object to this testimony or this questioning. Mr. Spinks has not offered his June 26 testimony into the record. He has offered testimony that he filed to supplement that in January.

JUDGE MACE: Ms. Ronis.

MS. RONIS: Well, I think it's relevant that back in June of 2003 he did file testimony and did recommend the Hatfield model. I think it goes to the issues you will see through the rest of my cross on this line that he had reviewed -- he had recommended Hatfield before he saw the Verizon model, and that's simply the point I want to establish. And we don't need the

testimony in the record, it's just a simple fact point about when he first recommended Hatfield.

(Discussion on the Bench.)

JUDGE MACE: All right, we'll allow the answer. Now do you want to pose the question again?

MS. RONIS: Yes.

BY MS. RONIS:

Q. In your June 26, 2003, testimony you recommended the Commission adopt the Hatfield model with some adjustments; isn't that correct?

A. I believe that's correct.

Q. Verizon also filed direct testimony in its cost models on June 26, 2003; isn't that correct?

A. Yes.

Q. And the model Verizon filed on June 26, 2003, is different from the model that Verizon filed, and then they were GTE of course, in 1997, correct?

A. Yes.

Q. So you had decided to recommend the Hatfield model before you saw Verizon's model; isn't that correct?

A. Yes.

Q. Now you state in your May 10th supplemental direct testimony that's been marked as 1056T that you received a version 5.3 of the Hatfield model before you

filed your direct testimony on June 26, 2003, correct?

A. Yes.

Q. Did you consult with AT&T regarding this version of the Hatfield model prior to recommending it in this proceeding?

MS. SMITH: Your Honor, again I would object to this. His testimony says what it says. He is recommending the Hatfield model. He filed his direct testimony at the same time Verizon filed its cost model in this case, their competing direct testimony, and the June testimony isn't even offered into the record, so he shouldn't stand cross-examination on testimony he's not offering.

(Discussion on the Bench.)

JUDGE MACE: We're going to sustain the objection. It appears that we thought your earlier question was just a preliminary nature to get to the point of addressing the testimony that is filed by Staff, and at this point it appears that you're going beyond that sort of preliminary nature. We would ask you to focus on the testimony that has been filed and is supported by Staff at this point and what Mr. Spinks actually recommends at this point.

BY MS. RONIS:

Q. That was my last question on this line. Can

I ask then the question without reference to your June 26 direct testimony, just generally did you consult with AT&T prior to recommending the Hatfield version 5.3 in this proceeding?

A. I'm not sure what you mean by consult.

Q. Did you ask them about any changes made between previous versions of Hatfield and version 5.3, the version that was filed in this proceeding?

MS. SMITH: Your Honor, I would object to this in terms of relevancy. I don't understand why it's relevant or if it's relevant whether he discussed any changes to the model in intervening times throughout his testimony. He has provided testimony as to why he thinks one model should be adopted, and that's the testimony that he should be cross-examined on. His whole process on how he reached that, you know, in terms of whether he has discussed it with AT&T isn't relevant.

JUDGE MACE: We'll sustain the objection.

BY MS. RONIS:

Q. Mr. Spinks, isn't it true that this Commission in previous orders, specifically the Eighth Supplemental Order in the UNE case and the Tenth Supplemental Order in the USF case found problems with the Hatfield model?

A. Oh, yes.

Q. And it's your position that AT&T's version 5.3 corrected those problems?

A. Some of them I discussed in length, which I discussed in my testimony.

Q. And with respect to the changes they made that you state fixed the problems, on what basis do you make that statement?

A. Well, is there a specific issue that you had in mind about the model --

Q. Sure.

A. -- that the Commission --

Q. Let's go to -- let's first go to page 8, lines 5 through 9, of your supplemental direct testimony, which has been marked as Exhibit 1056.

A. Yes, I see that.

CHAIRWOMAN SHOWALTER: I'm just going to make a suggestion. If you're going to refer us to an exhibit, can you please state the exhibit number first, then wait a little bit, and then the page and line. Otherwise we forget the page and line by the time we hear the exhibit number.

MS. RONIS: Sure.

CHAIRWOMAN SHOWALTER: Thank you.

MS. RONIS: It's Exhibit 1056, page 8, lines 5 through 9.

BY MS. RONIS:

Q. Are you there, Mr. Spinks?

A. Yes, I am.

Q. Okay. So here you state that you are recommending the Hatfield model with some modified inputs, and in particular you use some inputs from the Commission's prior order, the Eighth Supplemental Order, correct?

A. The inputs came from both the Eighth Supplemental Order and the Eleventh Supplemental Order in the USF case.

Q. So to be more specific, with the exception of the cost of capital, depreciation, and an adjustment to loop lengths that you propose here, you use the inputs previously ordered by the Commission in the Eighth Supplemental Order and the Eleventh Supplemental Order from the USF case?

A. No, the copper, prices for copper cable were also different.

Q. And you used the prices that were in Hatfield version 5.3 for those inputs, correct?

A. That were in the 5.2a, and switching prices were also different from the prior generic cases.

Q. Now the inputs from the Eighth Supplemental Order and the Eleventh Supplemental Order that you used,

they were inputs that the Commission ordered because they didn't believe the Hatfield inputs were correct; is that a fair statement?

A. I don't know, I can't answer for -- other than what's in the Commission orders with regard to their decisions.

Q. But they are different from the Hatfield --

A. But they would be -- yes, they changed the inputs, that's correct.

Q. And the Eighth Supplemental Order was issued in 1998; isn't that correct?

A. Yes.

Q. And it was based on cost studies and evidence submitted in 1997?

A. Yes.

Q. Isn't that correct?

A. Yes.

Q. So you did not use any of the updated inputs Verizon has proposed in this proceeding; isn't that correct?

A. Yes.

Q. And you don't discuss any of the Verizon inputs from the Verizon models in your testimony; isn't that correct?

A. Yes, that's correct. The purpose of updating

-- the purpose of this proceeding is to update the cost models as the Commission stated in the order opening this case that I cite in my testimony. The -- we have been conducting these proceedings for about eight years now, and a number of decisions have been made about inputs like structure sharing and loop length adjustments that in my view weren't subject to updates per se. Certainly input prices may have changed, but the purpose here was to provide the Commission with a view of what the loop costs would be using the decisions that they had already made. And in that way I had hoped that we would focus on what the differences in cost models were by holding the inputs constant, and which wasn't to say that I checked every input and I thought it was still appropriate to use.

Q. Let's explore some of the reasons the Commission adopted certain inputs in its 1998 Eighth Supplemental Order. I handed a copy to you earlier this morning.

JUDGE MACE: That's been marked as an exhibit, has it not?

MS. RONIS: Yes, that's Exhibit 869. I'm going to refer everyone to Paragraph 134.

JUDGE MACE: Who was that, what was the witness for whom that was marked?

MS. RONIS: I believe it was Dr. Mercer.

MS. SMITH: May I inquire as to whether the witness has a copy before him?

MS. RONIS: Yes.

MS. SMITH: Thank you.

MS. RONIS: I provided one this morning.

CHAIRWOMAN SHOWALTER: What page?

MS. RONIS: Paragraph 134 that begins on page 30.

CHAIRWOMAN SHOWALTER: Just so we're clear, our Paragraph 134 of this exhibit begins on page 36, so could you read the first four words or so.

MS. RONIS: (Reading.)

For each of the density zones with less than 2,550 lines per square mile.

CHAIRWOMAN SHOWALTER: Yes, that's on our page 36, but that's a good reason for paragraph numbers.

MS. RONIS: Is everyone on the same page here?

JUDGE MACE: Go ahead.

BY MS. RONIS:

Q. Mr. Spinks, this paragraph is addressing the cost for drop lengths, correct?

A. Yes.

Q. Now the third sentence reads:

We do not adjust the lengths in the other studies because no alternative lengths are proposed. The lack of adjustment to these studies should not be interpreted as an acceptance of the values.

Did I read that correctly?

A. Yes.

Q. So the Commission adopted drop length inputs in that order equal to the Hatfield model because no other alternatives were proposed?

MS. SMITH: I would object to that. The order speaks for itself, and I don't think it's proper to have the witness interpret what the order means. We can all see what it means.

MS. RONIS: I will withdraw the question.

JUDGE MACE: Thank you.

BY MS. RONIS:

Q. Let's turn to another subject. In Exhibit 1056, that's your supplemental direct, beginning on line 10, going over to page 8, line 2, here you're discussing the fact that the Commission in its Eighth Supplemental Order --

JUDGE MACE: Which page were you on?

MS. RONIS: Page 7.

JUDGE MACE: Thank you.

MS. RONIS: Lines 10 through page 8, line 2.

JUDGE MACE: Thank you.

BY MS. RONIS:

Q. Here you're discussing the fact that the Commission in its Eighth Supplemental Order and its Tenth Supplemental Order in the UNE, the USF case, didn't adopt the Hatfield model and found certain problems with the model, correct?

A. That's correct.

Q. Now please turn to page 6 of that same exhibit.

A. Yes, I have that.

Q. Now starting on line 6 and going over to page 7, line 2, you're stating here though that the new Hatfield version 5.3 addresses some of the Commission's previous concerns. Is that a fair characterization of your testimony?

A. No, here I'm discussing the changes between HAI 5.0, which was I believe used in the universal service docket, and HAI 5.2a, which was the version of the HAI model that I began using at the outset of the proceeding.

Q. And version 5.3 includes those same modifications that were incorporated into version 5.0

and 5.2a?

A. That's correct.

Q. Now let's go through some of these items that you state on these pages were changed in subsequent Hatfield versions. At lines 7 through 10 on page 6, you state that the model now addresses the Commission's previous concerns about minimum -- about the Hatfield model not meeting the minimum spanning tree algorithm, correct?

A. Yes.

CHAIRWOMAN SHOWALTER: Hold on, you're on page 6 of 1056?

MS. RONIS: Yes, I am, starting on line 7 through line 10.

CHAIRWOMAN SHOWALTER: Where it says one of the changes?

MS. RONIS: Yes.

CHAIRWOMAN SHOWALTER: All right, thank you.

BY MS. RONIS:

Q. Now could you tell me what you did specifically before you filed your testimony recommending the Hatfield model to investigate whether in fact the new Hatfield approach to customer locations corrected the problem the Commission previously identified?

A. Yes, I reviewed the documentation for the model that was presented, and in there it explained that it had corrected the issue.

Q. Did you do any sensitivity analyses to compare version 5.3 to the version previously submitted to the Commission?

A. No.

Q. What did you do to satisfy yourself that Hatfield version 5.3's new approach to customer locations didn't create new problems?

A. Well, in running the model and looking at the outputs, examining the outputs, I didn't observe any dramatic changes that would cause me concern. And the other factor about this, whenever you talk about issues involving whether there is sufficient plant out there, you have to remember that Staff's version of the model has the loop length adjustment, which is sort of the great equalizer. So if it turns out that loop lengths are less than actuals in the model, that the model produces, those investments are all going to be scaled up anyway to produce -- so that the model produces in terms of cost at least the cost associated with the average loop length for each wire center. So in terms of importance, that's why I didn't undertake any in-depth analysis of the changes.

Q. But you did find some problems with the clustering data produced by Hatfield, correct?

A. When I did the analysis of the Qwest wire centers' cluster data, I found problems with clusters not being in the correct location, either -- that is that by the correct location I mean I matched the census block groups, which is how the clusters are identified, by census block group, the one they belong in, so I plotted those and compared the clusters to see if they were in the census block group they were assigned to.

Q. And I will be asking you a few more questions about that later, but let me finish this line for a minute.

At lines 14 through 17 of the same exhibit on page 6, you state here that you didn't adjust the switching cost produced by the Hatfield model as was previously ordered by the Commission in the Eighth Supplemental Order because the new version of the Hatfield model filed in this proceeding used new switching data from an FCC report. Is that a fair characterization of your testimony?

A. Yes.

Q. And on line 14 you refer to reviewing the model documentation, correct?

A. Correct.

Q. What did you do to satisfy yourself that this switching data accurately reflects Verizon's forward looking switching costs?

A. I did not specifically examine Verizon's forward looking costs, the switching costs per se. I don't know that -- why they would be any different from Qwest's say. The model's a generic model. It's not a company specific model other than in the specific data that you said is the same inputs are used generically between all companies, at least for the most part, including switches. What -- the reason I didn't conduct a -- any more of an in-depth examination is that these investment values, as my testimony says, had been, for switches, had been adopted by the FCC, and so I assumed there that they had underwent some scrutiny at the FCC level before their adoption.

Q. Do you know when the FCC adopted those switching inputs?

A. No.

Q. Do you know how old the switching data used in that FCC report is?

A. I believe I read a criticism of it in some of the testimony that was filed in this proceeding, but I don't recall, possibly 1998.

Q. Do you know whether the FCC switching data

includes all new switch discounts or reflects all new switch discounts or a mix of new and growth discounts?

A. No, I do not.

Q. Now on page 8 of the same exhibit, lines 14 through 18, now you state here that you did not make the special access adjustment previously ordered by the Commission to the Hatfield model because you believe the new version of the Hatfield model explicitly models high capacity or special access loops. Is that a fair characterization of your testimony?

A. Yes.

Q. And again, what did you do to investigate whether, in fact, Hatfield is accurately modeling the cost of high capacity loops?

A. When I received the new 5.3, I reviewed the calculations in the model that had been added to account for the high capacity loops, looked at the formulas, traced some of the formulas through, and tried to gain an understanding about how that -- how the high capacity loops were modeled.

Q. Now I'm going to turn to Exhibit 1065.

A. I have that.

Q. I'm going to refer you to page 6 and starting on line 6.

A. Yes, I see that.

Q. Now this question and answer in your testimony is addressing Verizon witness Mr. Murphy's criticisms of the way the Hatfield model models high capacity loops, correct?

A. Yes.

Q. So you have reviewed Mr. Murphy's testimony on this subject?

A. Yes, this is a response to some of his, well, his statement he made regarding my prior testimony.

Q. Since you have -- since you reviewed Mr. Murphy's testimony on this subject of how the Hatfield model models high capacity loops, have you gone to the Hatfield model to investigate for yourself whether, in fact, the Hatfield model includes all the proper costs?

A. No, I didn't understand that to be the point of his testimony here. My understanding from reading his testimony was that the -- he couldn't determine how many of the high capacity loops belonged in one category versus another and that there was an outstanding data request to AT&T about that, so it appeared to me he didn't have all of the information himself to make -- to come to a conclusion about.

Q. Do you have an understanding of how the Hatfield model includes the high capacity, and

specifically DS1 versus the DS3 versus OCN?

A. A general understanding.

Q. Did you issue any data request to AT&T to investigate Mr. Murphy's claims?

A. No.

Q. Let's turn to the Hatfield model's clustering algorithms. I'm just going to ask you some general questions first. Do you agree that the cost of determining where to place -- the cost of placing plant and how much plant to put in is a material part of loop costs?

A. Yes.

Q. And is it fair to say at a high level the Hatfield model determines these costs at least in part through its clustering algorithms?

A. Yes, I think you could say that.

Q. And in the previous proceeding and in the Eighth Supplemental Order, AT&T had a different process for, for example, locating customers, and that process was criticized in the Eighth Supplemental Order; is that fair?

A. I believe so.

Q. And AT&T has attempted to address these flaws by coming up with a new method of placing plant, correct?

A. I don't know that I agree with the term flaws, but they developed a new clustering method. I believe the first time I seen it was in January of this year.

Q. And the customer locations are determined in part by a third party called TNS, correct?

A. Yes, I understand that.

Q. Have you asked AT&T for access to the TNS source code?

A. No.

Q. So you haven't reviewed the TNS source code?

A. That's correct.

Q. Now on page 12, again back to your rebuttal Exhibit 1065, on page 12, I'm going to start on line 10 and going over to page 13, here you're discussing Verizon's criticisms of the Hatfield cluster data, correct?

A. Yes.

Q. And you criticize Mr. Dippon for not quantifying the error; is that correct?

A. For pointing out what I would say selective results, which I don't believe gives the Commission a lot of help in determining to what extent there are errors. All models will have what people would term errors in them or less preferred ways of building plant,

and I believe my criticism was about my sense that it was a fairly one sided kind of an analysis.

Q. But on page 12, line 18, you state here that you do agree that the Hatfield cluster data does produce errors; that's what you state, correct, line 18?

A. I don't believe that's quite right. When you plot the cluster data onto -- in a GIS software, you will find that some of the clusters are not properly located.

Q. So again, you state starting on line 17 that in performing that analysis Staff found that two types of errors could occur with the clustered data. Have I read that correctly?

A. Yes, that's correct.

Q. Now have you attempted to quantify the results of those errors?

A. I did for the wire centers that I studied in the analysis in my earlier testimony for the Aberdeen wire center where I found approximately 16 clusters misplaced, and I corrected all those by adjusting the radial distance, and then recalculated the cost using the new cluster file that I had created, which produced a slightly lower cost for the Aberdeen wire center.

Q. But you haven't done it with respect to all the wire centers?

A. That's correct.

Q. And could you repeat how specifically you would correct the error?

A. There's a measuring tool in the software that allowed me to measure the radial distance from the wire center to the correct location, to the correct census block group, and I could -- I had an overlay of streets and roads in the areas that I could use to determine where within the census block group the cluster belonged, so that it was positioned over roads existing where housing people would be, and marked that distance with a measuring tool, and then changed in the cluster file the radial distance to that distance.

Q. And you didn't adjust for any other variables that could result from those changes you made?

A. I'm not sure what you mean, any other variables.

Q. Any other costs? For example, how it would affect DLC placement by moving the distance you suggested?

A. There is potential for that I suspect, but I didn't find large errors in the radial distance. For instance, a radial distance might be 5,000 feet and the new distance might be 7,000, and so I simply updated the distance.

Q. So it's your position you would not need access to the TNS source code in order to correct the cluster errors in the Hatfield model?

CHAIRWOMAN SHOWALTER: What is TNS?

MS. RONIS: It's the company that produces the cluster data or in part, and I actually don't know what it stands for.

CHAIRWOMAN SHOWALTER: Okay.

MS. RONIS: I'm sure someone here does if we want it for the record.

JUDGE MACE: Perhaps Mr. Spinks does.

CHAIRWOMAN SHOWALTER: That's okay, as long as I know it's a company name.

MR. KOPTA: Taylor Nelson Sofries, Taylor, T-A-Y-L-O-R, Nelson, N-E-L-S-O-N, Sofries, S-O-F-R-I-E-S.

CHAIRWOMAN SHOWALTER: Thank you. Just every time there's an acronym, if I don't know it, it could mean anything.

MR. KOPTA: We don't use acronyms in this industry.

BY MS. RONIS:

Q. I'm sorry, Mr. Spinks, did you answer, I wasn't sure?

A. I don't think I did.

JUDGE MACE: Do you remember the question?

THE WITNESS: No.

JUDGE MACE: Could you repeat it, please.

BY MS. RONIS:

Q. So its' your position that in order to correct the cluster data errors in the Hatfield model, you do not need access to the TNS source code?

A. I think it would depend on the magnitude of the adjustment that needed to be made. If the adjustment were so large that additional equipment was somehow necessary, although I -- and I don't know -- I don't have a specific case in mind, but I can see the possibility through your question that it's possible that some other changes may be necessary. But for the magnitude of the errors that I found, which went both directions, I didn't think that it was necessary.

Q. Let's turn to Exhibit 1062, your response testimony.

A. I have that.

Q. Refer you to page 6, and lines 4 through 19.

A. Yes, I see that.

Q. Now here you are criticizing Verizon's loop module for considering and reflecting actual plant locations instead of a more what you call efficient network design?

A. Well, it's more than -- well, when you say plant locations, yeah, as long as we understand that includes the distribution terminal, SAI's, DLC's, and existing cable routes.

Q. So it's your opinion that the TELRIC rules require that a brand new loop network be configured?

A. No.

Q. What is your position?

A. The use of the actual locations for all this equipment, as I say in my testimony, and -- well, it creates more of a replacement cost type of a model than TELRIC, but I don't believe that it falls squarely outside the bounds of TELRIC. It's less efficient than it could be, and in that sense I have a problem with that.

Q. Where in the Hatfield model does it account for, for example, constructing and obtaining all new rights of way for the newly designed network?

A. I don't believe it does, and I don't know that that's a necessary -- necessary in the cost model in order to produce a TELRIC cost.

Q. Where in the Hatfield model does it reflect that if a brand new network were constructed from scratch, suppliers of plant would be capacity constrained and possibly, I'm not saying they will,

possibly result in higher costs?

A. I don't believe the model does those things.

Q. I'm going to refer you to the same exhibit, page 7.

A. Yes.

Q. Lines 4 through 7.

A. I see that.

Q. The question is:

Are all of the Verizon cost algorithms viewable?

And you state:

No, in response to Staff Data Request Number 18, Verizon indicated that certain information such as engineering and construction standards is not accessible in the model.

Have I read that correctly?

A. Yes.

Q. Where in the Hatfield model can the user view the engineering and construction standards?

A. I'm not certain, I don't know.

Q. Now in your May 10th supplemental testimony, which is again Exhibit 1056T, you propose for the two wire loop a statewide average rate of $10.09, correct?

JUDGE MACE: What page are you on? I see

something on page 13 that may be what you're referring to.

Q. Page 13, line 18.

A. Yes, I see that.

Q. Now in previous versions of your testimony you had proposed a statewide average for the two wire loop of $17 and --

MS. SMITH: I guess I would object to the question, and I apologize for interrupting the question, but the testimony in prior versions isn't relevant. We're not offering any testimony in prior versions. We're offering the costs and the recommendations that Mr. Spinks makes at -- revised as of May 10th.

JUDGE MACE: Ms. Ronis.

MS. RONIS: I mean the fact that he has drastically reduced the rate over previous versions I think is impeachment, and I think Verizon should be permitted to explore why that happened. So I don't think we can erase the fact that there's previous proposals out there that are much higher than his current proposal.

MS. SMITH: And, Your Honor --

MS. RONIS: And without explaining why it changed.

MS. SMITH: And again I apologize for the

interruption, I thought Ms. Ronis was finished.

There is no impeachment, because there is no prior sworn testimony. Mr. Spinks made some changes to his recommendation, and I would imagine that that's done by all witnesses who testify in these dockets. Some of it finds its way into pre-filed testimony because of our filing deadlines, some of it does not. So we are proposing only those costs recommended by Mr. Spinks in May 10th, not by the costs he may have per -- he may have pre-filed in earlier testimony but later revised as a result of further analysis. Of course Mr. Spinks is subject to cross-examination on why he has testified that the two wire analog loop cost is $10.09, but he hasn't testified to any other rate as of this time.

JUDGE MACE: I think you can explore, as Ms. Smith suggested, that you can explore the basis for his recommendation of $10.09, but at this point I'm not going to allow you to do that in comparison with the prior number.

MS. RONIS: Let me ask this question, and you tell me if it's improper.

JUDGE MACE: Well, it's not for me to tell you that it's improper.

MS. RONIS: Well in --

JUDGE MACE: In the terms of what I just

said.

MS. RONIS: Given your instruction, yes.

BY MS. RONIS:

Q. Without reference to any previously filed testimony, did your calculations of Verizon's two wire loop statewide average change, in other words did you have previous versions that you calculated that led to different results?

MS. SMITH: Objection, this is the same objection to the same question. Mr. Spinks probably did a lot of things trying to come up with a recommendation, but his recommendation is $10.09. There may have been recommendations that were widely different, up, down, wherever, that didn't make it into the testimony, and the testimony says $10.09, so any exploration of changes is improper.

JUDGE MACE: Ms. Ronis, do you have anything to add?

MS. RONIS: Again, I think any prior calculations and reasons for those calculations is entirely appropriate cross-examination.

JUDGE MACE: Okay.

(Discussion on the Bench.)

MS. RONIS: Your Honor, I will withdraw the question. The revised -- but I do want to make it clear

so there's no allegation of impropriety here, the version that is on the record shows a strikeout of the $16.30, and we would want to make that point in our brief. So I will withdraw questions to Mr. Spinks, but we will --

MS. SMITH: And by point of that, our rules require that. Our rules require us to make the changes in legislative format, so I assume when people get their hard copies they don't have to go through themselves and compare it. The rule is set out to make it convenient for those changes to be found. It is not intended to make that part of the record. So we, of course, would object to that, because we haven't offered it.

CHAIRWOMAN SHOWALTER: Yeah, we have discussed this particular question before. The testimony that Mr. Spinks has now filed does not include the strike through. I mean that is -- those are not his testimony, that's not his testimony as filed.

MS. RONIS: Can I also note that, you know, Verizon and other parties made corrections, and they go version to version, and they just update their testimony, they don't -- we don't just pretend it didn't happen and then just file the more recent version, so --

JUDGE MACE: Well, we have an objection before us, and we have to address that. I don't know

that we have addressed this in the context of any objections about updates that Verizon may have made, and so we are confronted with a question at this point and are attempting to deal with it.

MS. SMITH: And simply by proposing the strike through legislative format to the testimony, that is Staff's counsel's interpretation of the Commission's rule when you do that, and, you know, if perhaps we have misinterpreted the rule to show it in legislative format, that has nothing to do with the fact that we're not offering that testimony that has been stricken on the pages.

CHAIRWOMAN SHOWALTER: Well, the testimony that Mr. Spinks has filed does not include the strike through, so then the question is --

MS. RONIS: Do we still withdraw the question?

CHAIRWOMAN SHOWALTER: Right.

MS. RONIS: Yes, we will withdraw the question.

CHAIRWOMAN SHOWALTER: All right, thank you.

BY MS. RONIS:

Q. Mr. Spinks, Verizon held a training session on its model last July of 2003, correct?

A. Yes.

Q. And you attended?
A. Yes.
Q. Isn't that correct?
A. Yes.
Q. And Verizon offered at that meeting to provide you additional training on Verizon's model; isn't that correct?
A. I don't recall.
Q. Over the course of the last year, do you recall that Verizon has offered to make additional training available to you?
A. They may have, I don't deny it, it's just I don't recall any specific request that was made. I recall the continuing nature of the, for instance, the help desk availability and the like.
Q. And you haven't asked Verizon for any additional training since July of 2003, correct?
A. Well, I didn't ask for the July 2003, they offered it and I accepted it, yes.
Q. Have you asked for any additional training since then?
A. No.
Q. Did you attend all of the tutorial yesterday provided to Dr. Gabel?
A. Not all of it, but parts of it.

Q. Now you mentioned the help desk, it's your understanding that Verizon has established a help desk to answer general questions about its cost model filed in this proceeding, correct?

A. My understanding of the help desk is if you have a problem running the model, you could call them about it if it crashed or there was some sort of an error message or that, they could help with that.

Q. And how many times have you called the help desk?

A. I have not called the help desk.

Q. Anyone else from Staff?

A. I'm not certain.

Q. And the final line of cross here, have you reviewed all of Verizon's testimony filed in this proceeding?

A. I'm not certain. I have certainly reviewed the testimony that I have responded to.

Q. Have you reviewed the cost manuals?

A. Some of them. The -- there were ten CD ROM's provided with the direct filing, and I examined -- I believe there were four or five of them that dealt explicitly with the model and various backup support files, and I went through many of those.

Q. Can you turn to Exhibit 1062, page 8.

A. Yes, I have that.

Q. And referring you to lines 4 through 7, this testimony states at line 4:

Despite these prior Commission orders, including prior directives aimed directly at Verizon's cost model, Verizon has failed to include in VzCost the ability to adjust costs based on loop length differences or to alter structure sharing assumptions.

Have I read that correctly?

A. I see that, yes.

Q. Did you send Verizon any data requests asking whether these two assumptions, the structure sharing assumption and the loop length assumption, could be changed in Verizon's model?

A. No, I didn't send a data request. I had asked during my initial training about them.

Q. Can you please turn to attachment, sorry, Exhibit 226, which is Verizon's supplemental direct, and I provided you a copy of that this morning.

JUDGE MACE: Exhibit 226?

MS. RONIS: 226.

JUDGE MACE: Which witness was that?

MS. RONIS: It's the Verizon panel, the

supplemental direct filed in January of 2004.

A. Yes, I see that.

JUDGE MACE: If you can just hold on until we get to the cite.

It's marked SRP-1T as an internal designation. Is everybody there?

Go ahead.

BY MS. RONIS:

Q. And I'm going to refer you to Attachment B as in boy, starting with page 18.

JUDGE MACE: Is that the VzLoop cost manual version 7.0?

MS. RONIS: Yes, starts with Section 1, Introduction.

JUDGE MACE: Page 18, thank you.

MS. SMITH: May I just ask a question to clarify, is the Attachment B a separate exhibit number?

MS. RONIS: No, I will verify, but I believe it's just part of Exhibit 226.

CHAIRWOMAN SHOWALTER: On page 18 is there a bold title labeled 6.5, buried fiber and copper cables?

MS. RONIS: Yes, there is.

And, Mr. Spinks, I'm going to refer you first to the little diagram.

Is everyone on the same page?

JUDGE MACE: Yes, thank you.

BY MS. RONIS:

Q. Okay, and you will see a diagram in the middle of the page. One says total requires poles, the bottom one says Verizon poles. Do you see that?

A. Yes, I do.

Q. Now the diagram also talks about -- has a label Verizon non-shared poles and Verizon shared poles; do you see that?

A. Yes.

Q. And then this cost manual then says:

The percent shared specified with SA variable in options table.

Do you see that?

A. Yes.

Q. Now before you filed your testimony -- strike that.

Had you reviewed this cost manual before you filed your rebuttal testimony?

A. No, but I did -- well, no.

Q. Now I'm going to refer you to page 19.

JUDGE MACE: Of the --

Q. Of the same exhibit.

JUDGE MACE: Attachment B.

Q. Attachment B, and refer you to the fourth

full paragraph that starts, the amount of trenching.

A. I see that.

Q. The first sentence of that paragraph states:

The amount of trenching that is shared is determined by two variables in the options table.

Did I read that correctly?

A. Yes.

Q. And finally, refer you to page 20 of the same exhibit, Attachment B, to the last paragraph, and that states:

Sharing of conduit systems is modeled based on the variables SC and SCU in the options table.

Did I read that correctly?

A. Yes.

Q. Have you ever gone to these tables referenced on pages 18, 19, and 20 to attempt to vary the structure sharing assumptions?

A. No, I, again, I was acting on information I thought I had received orally from the company that they did not -- that there was not a mechanism to make either loop length adjustments or structure sharing beyond the poles. I knew that the poles could be altered some. And so I have not examined these, and I'm not certain

whether they do or how they work.

JUDGE MACE: Ms. Ronis, how much cross do you have left?

MS. RONIS: A minute, one minute.

JUDGE MACE: Go ahead.

BY MS. RONIS:

Q. I can refer you to the page number in Verizon's rebuttal testimony if you need it, but do you recall that Verizon has explained in its recent testimony how to adjust the loop lengths?

A. Yes, I did see that, and so I knew that it had -- I thought that perhaps in the January version of the changes that Verizon had introduced that ability to do the loop length adjustment.

Q. And your response testimony, Exhibit 1062, in which we just referred to those pages, page 8, lines 4 through 7, was filed April 20th, 2004, correct?

A. Yes.

Q. And in that testimony, again you state the user is not able to adjust structure sharing and loop length assumptions, correct?

A. That's correct, that testimony was based on my understanding again coming out of the initial training.

MS. RONIS: I have no further questions.

JUDGE MACE: We'll take a break for 15 minutes at this time.

(Recess taken.)

JUDGE MACE: Ms. Ronis, your cross-examination is done; is that right?

MS. RONIS: Yes, it is.

JUDGE MACE: Mr. Kopta has no cross-examination?

MR. KOPTA: That's right.

JUDGE MACE: Ms. Frame?

MS. FRAME: No.

JUDGE MACE: And so, Dr. Gabel.

E X A M I N A T I O N

BY DR. GABEL:

Q. Good morning, Mr. Spinks.

A. Good morning.

Q. Mr. Spinks, I would like to begin with the topic of structure sharing. Am I correct that in this proceeding you have recommended the same structure sharing percentages that you recommended in the first cost docket, UT-960369?

A. Yes, that's correct.

Q. For the record, would you explain how you developed those sharing percentages?

A. To the extent I can recall. There was a team consisting of myself and two -- an outside plant engineer from the Staff and another engineer, there were two engineers, and we surveyed each of the density zones. And when I say survey, I don't mean literally, but we considered each of the density zones separately and identified the number of potential providers of structure sharing, for structure sharing, and by density zone, and based on those numbers developed percentages of structure sharing that we considered to be likely to exist in a forward looking network, if you will.

Q. So your recommendations were based upon what was likely to exist rather than what does exist?

A. That's correct. That was the -- in the first generic cost case it was the same arguments. The ILEC's argued to use actual structure sharing. AT&T argued to use this -- their version of structure sharing, which is still the same today as it was then. And the Staff numbers came out somewhere in between those two.

Q. When you looked at what would likely occur, did you include in the type of utility that might share structure with Verizon cable companies?

A. Yes, I believe that they were in there.

Q. And if there -- let's -- I would like you to assume the following hypothetical example. If there was

a telephone pole that had two cables on it, one cable being a Verizon telephone cable and a second cable being a coaxial cable of the cable television company, would you assume that each of those two companies would be equally responsible for the cost of the pole?

A. Yes, I believe that that was the way we did the calculation.

Q. Are you familiar with testimony in this proceeding which stated that cable companies due to federal regulations pay a small portion of the cost of hanging facilities on the pole; did you see that testimony?

A. Yes, I did.

Q. Do you, after reading that testimony, does that give you reason to reconsider your initial recommendation about sharing the cost of structure between a cable company and Verizon?

A. No. Cable companies played a very small part. I believe we had identified six or eight potential, depending on the type of structure, there were anywhere from six to eight providers, potential providers. For instance, maybe with underground it might include -- it might have included natural gas lines or other types of providers, and so the telephone company was only one of that group. So if there were

four potential providers I think with poles, you would have electric companies, cable, I'm not sure what else was in there now, but the telephone company counted as one. So if there was -- in rural areas, for instance, I think our structure sharing percentages are like 87%, something like that.

And I actually did at the beginning of this proceeding review that and consider some changes now that I think of it, and that was based on reviewing Minnesota and Colorado and Arizona structure sharing orders to see where other states were coming out on this issue. And if I had recommended changes to it, in the end I didn't, but if I had, we would have raised the percentages to 100% in the zero to five areas and actually lowered some of them in the mid range density zones from the 62% down to more like 55% for I believe buried and underground.

JUDGE MACE: I'm sorry, I didn't hear the last part.

THE WITNESS: Buried and underground.

JUDGE MACE: Thank you.

A. And so they did -- we did review that, and in the -- but in the end we decided to stay with what we had.

BY DR. GABEL:

Q. Okay, Mr. Spinks, I would now like to ask you a few questions regarding your switching recommendations. In Verizon's reply testimony, they addressed your recommendations. Did you review Verizon's reply testimony of April 20th?

A. I did, but I don't recall the specific concerns that they may have expressed about the switching.

JUDGE MACE: Exhibit 301 is the switching panel, Verizon switching panel, that was filed April 20th.

Q. Mr. Spinks, do you have a copy of that? Or let me say -- let me just describe to you the testimony I have in mind, maybe you remember. And if not, we'll get you a copy of the testimony. But at page 17, lines 12 to 13, that panel notes that two switches that varied by only two lines have a $3.98 cost difference. Do you recall that testimony?

A. Yes, yes, I do actually.

Q. Okay. Are you familiar -- could you explain -- is that a correct representation of your workpapers?

A. Yeah, well, the costs showed what they showed, and I didn't -- well, I didn't go back and verify the numbers. I had seen similar spread between the switching costs in the -- for the various wire

centers that I -- when I looked at that, I thought that it was due to probably two different factors at work. One is the zones for the switching were not based on their relative costs, but rather they were tied in to the loop costs. Whatever wire centers were in zone 1 for loops is where I put the switching costs for those same wire centers. The purpose of doing that was to -- so when we talked about zone 1 costs, whether it be loops or switching, it would be -- they would always be the same wire centers, so that was for sort of administrative reasons. And the second reason why I thought that might be different would be relative usage of the switch.

Q. Also like to ask you to comment on some testimony from the Verizon panel rebuttal testimony of May 12th. I do have the testimony, and I can present it to you if you would like to see it. At page 20, starting at page 27, the Verizon panel has --

CHAIRWOMAN SHOWALTER: What exhibit?

DR. GABEL: I'm sorry, Exhibit 228.

CHAIRWOMAN SHOWALTER: Page?

DR. GABEL: 27.

BY DR. GABEL:

Q. At this portion of the --

JUDGE MACE: Hold on just a second.

Go ahead.

Q. At this portion of Verizon's rebuttal testimony, the company provides some data on loop length comparisons with the Verizon model and the Hatfield model and actual loop lengths. After reviewing this testimony, did you -- did it make you feel more confident about the Verizon model, or do your -- does your initial recommendation still hold that you believe that the Commission should adopt the Hatfield model?

A. Well, my thought when I seen this testimony was I shouldn't have been surprised that the loop lengths, model loop lengths, would turn out to be close to the -- I think they're 3% on average or 6% on, no, 3% over the actuals. But the thought I had was that in a forward looking network, it's likely that loop, remodeled loop lengths would turn out to be lower, maybe in the range of 5% to 10% less rather than equal to or over. I believe that's likely certainly in some wire centers because of the way plant was historically built versus how it would be rebuilt in a forward looking network where you're locating a centroid in the center of each cluster versus the way it may actually be laid out where the SAI is maybe on the edge of a serving area instead of in the center. So there's reason to believe they should be less, could be less certainly in a

forward looking network.

Insofar as the recommendation to use the HAI goes, I have recommended that pretty consistently over the eight years we have been having these proceedings. I think the model offers a lot of good -- has a lot of good going for it. If the Verizon model can be adjusted to, for instance, do the structure sharing and the loop length adjustments, I think that goes a long way towards making it more palatable, but it -- I don't know whether you can take out of the model the sorts of what I think about as being built in where I think Mr. Turner from AT&T, I read some testimony where, well, I had addressed it conceptually, I think he showed where it actually occurs, there are four or five SAI's in a very closely located to one another, for example, which is one of the results you get when you try to essentially duplicate your existing network. If there were some way to get those out of there, then you might find some convergence in the costs that the two models produce if you can put in uniform inputs between the two of them.

Q. I would like to ask you to turn, Mr. Spinks, to Exhibit 1062. This is your response testimony of April 20th.

A. I have that.

Q. Page 9, line 9, you state that the model

contains hard wired programming for assumptions. Is this -- in addition to structure sharing, is there anything else in the model which you can identify as being hard wired into the model?

A. What I had in mind when I said that was the structure sharing. At the time I wrote that, I had read that they could -- when -- do the loop length adjustment at that point, so I thought the only thing left was the -- was the structure sharing not being able to be adjusted.

Q. I think I'm going to end with an open ended question to you, which is different than the open ended question I have given other witnesses, and this is as a cost analyst, the Commission has before it two models, one which is the Verizon model assumes that customers continue to be served from the existing pedestal, and the other is the Hatfield model that doesn't make that assumption. Is that your understanding of one type of a difference between the two models?

A. I think that's yeah, one way of expressing it, yes.

Q. Could you just explain why as a cost analyst you might believe one methodology is better than the other, one methodology working with the existing location of pedestals and serving area interfaces versus

the assumption that the only thing that is fixed is the existing location of the central office?

A. Right, I -- both models are I believe TELRIC compliant in the sense that they -- there's no real obvious deviations from the FCC's criteria for what TELRIC is. Staff prefers the or views TELRIC with the emphasis on the term long run, and that's a economic standard, if you will, that says in the long run all inputs can vary. If you're going to have an economic cost model that you're going to term a long run economic cost model, then you should let those inputs vary and see what the cost is. That is -- it's -- and the other point is that we would emphasize efficiency. Between two models, the one that's more efficient would -- that are otherwise ceteris paribus, the same, the one that's more efficient would be preferred. That's the exercise of long run costing.

DR. GABEL: Thank you.

E X A M I N A T I O N

BY CHAIRWOMAN SHOWALTER:

Q. Well, I would like to follow up on that answer right there, because I had somewhat taken from Dr. Blackmon's testimony that if it were up to Staff on its own, Staff would not be recommending TELRIC per se,

and but yet the FCC has ordered this, so this is what we do. Now your answer just now indicated to my lay ears that you were emphasizing the long run aspect and the efficiency aspect, which to my ears sounds like more TELRIC than perhaps FCC requires, in other words more on the theoretical end of TELRIC than FCC is actually requiring, whereas I heard Dr. Blackmon, I could be wrong, to take issue with TELRIC if he could, so.

A. Right.

Q. I would have thought that Dr. Blackmon anyway would be sticking to the more let's say realistic side of what's TELRIC permissible or the ground, the real world side of what's TELRIC permissible in the FCC's eyes.

A. My response was couched in the context of living within what the FCC has set out for us, so that that was really the context for my responses. We have to live in this TELRIC world, we have no choice. Given that and you have two models, which would you choose.

Q. Right.

A. Dr. Blackmon's response went to if Staff could have its druthers, we may have chosen or pursued a entirely different way of pricing than TELRIC itself. That's to me not inconsistent at all I mean between the two responses. I don't think that he intended to

necessarily be -- that we would prefer a model that's more realistic per se. I mean being a Ph.D. economist, he's, you know, the theoretical, theoretically, more theoretically oriented so that -- but I can't say for certain what he had in mind when he gave his response.

Q. Well, just but your own response is that even though both models are TELRIC compliant or FCC compliant, in your view you think the Hatfield produces a better result because it ends up with a more efficient answer, with a more efficient answer?

A. Yes, that's correct.

Q. Is that the same or different than saying it's more theoretical than the Verizon model, that is it's more efficient because it's more theoretical?

A. No, I would say it's more efficient because it models a forward looking network that's not tied to the past. And I mentioned in my rebuttal testimony I think that the -- and in response to some testimony from Dr. Tardiff who you will hear from this week who talked about using embedded investment as a measure of the reasonability of the model, and I take that notion to task because public utilities and rate base rate of return regulation in the past have had a tendency, if you will, to overinvest in the network. When I first got into the business we called it the gold plated

network, there was a tendency to substitute capital for labor because under rate base rate of return regulation you didn't have the same sorts of risks that you have in competitive markets.

Q. Okay, I would like to ask a little bit about how you compare these two models. First, where the models share the same weakness, do you agree that it's a draw?

A. Yes.

Q. And if they do share the same strength, that would also be a draw?

A. Yes.

Q. So we should be concentrating, shouldn't we, on the differential strengths and weaknesses of the two models?

A. Well, let me try and answer it this way. At the outset of this proceeding what Staff set out to do was to for all three models, you recall Qwest was involved initially in the case, what Staff had tried to -- initially we tried to do was to substitute, to unify the inputs in the model, to use the same inputs. Then when you seen the outputted model, so let's say one says $10, one says $15, one says $20, what you're looking at are purely the differences due to the model themselves the way the network went. If you could make the

structure sharing equal, the loop lengths equal, the input prices equal, all you would have left would be the way the model builds the plant that would account for the difference in the price. Unfortunately, for a number of reasons we weren't able to pursue that in the end to make that idea work, that concept work. But I think that that approach would have -- would have given us a pretty good handle on -- and then -- and then choose the model that's most efficient.

Q. But how would you know that? Supposing you were able to do that experiment and you had equal identical inputs and you got an output and one said $10 and one said $16, that would tell you that the difference in those numbers is due to the model, but how would you decide which model produced the better result?

A. Well, and that's where at that point you then turn to evaluating the strengths and weaknesses.

Q. And on those, let's say talking about inputs first, there's been discussion here about whether or not Verizon's model actually can adjust for both the structural sharing inputs or percentages and loop length, and I'm unclear now whether having had that discussion today you feel that Verizon's model is more adjustable than you originally thought?

A. Certainly with respect to loop length

adjustments and as I read their rebuttal testimony, it's clear that they have -- that they have performed adjustments for loop length, and so that appears to be a done deal, their model will do that. I was not aware this menu input that's now in the model that's -- that appears to allow for structure sharing, so I have not evaluated and I can't really say whether it can indeed do that. I would say based on -- based on the testimony, it appears that you can make some sort of an adjustment though for the structure now. And the Commission in past cases with models has directed the company to make those sorts of things anyway if the model didn't do it, so in -- by way of Bench request and -- to do the programming to make them do those things. So I think in the end you can -- you can get the model to do that to the extent it didn't, just Staff doesn't have the power to bring that about, we have to evaluate the model as it's given to us.

Q. Well, the first question is, does it appear to you now that the Commission through our advisor, Dr. Gabel, will have the ability to try to make that adjustment?

A. Yes.

Q. If one is able to make those adjustments so that both loop length and structure sharing is

adjustable in the Verizon model, is there anything else inherent in the Verizon model as distinct from inputs that you think is a significant problem?

A. Yes, that's the what I call the replication of the existing network. That is by using all of the existing locations of equipment wherever it may be, there is I think necessarily some duplicity in the necessary plant, and so it's less efficient in that respect.

Q. Okay. And I don't know if you were in the room when I discussed the issue of getting from here to the Capitol, maybe you weren't, okay. The issue was if you take an example of trying to string a line say from between this building and the Capitol, which requires in the real world going down a bank, around a lake, and up another hill, whereas as the crow flies it's about one mile, and around the lake is three miles. Can you tell me how the two models address that problem? Does the Hatfield model, for example, go as the crow flies, or does it, and for that matter does the Verizon, or does either one recognize you need to go around the lake?

A. My understanding is that the VzCost model as it uses existing routes, cable routes, would follow the existing cable route. The route -- that route may go around the lake, or it may use submarine cable and go

across the lake and up the hill. But whichever it was, that's what they would use. The HAI model would measure the distance between where you're at and where you want to go and then apply a factor to it that is I think the square root of 2, 1.4 or 1.7, somewhere in there, that is what we call rectilinear routing. So if you want to go from point A to point B, it assumes that you go this way and up, and that creates in most cases I believe sufficient cable to do the job with feeder cable to do the job with.

Q. So the HAI model makes an abstract, maybe perhaps it's derived from something empirical, makes a generic factor that builds in some degree of let's call it inefficiency but, you know, not straight line, versus Verizon that is more routed in the actual routes that past or current lines take.

A. Correct.

Q. Is that correct?

A. Yes.

Q. And why is the -- why is the HAI model better on this particular score than Verizon's, if it is?

A. I don't know that it is. Actually, of all of the -- my criticism of the VzCost is not so much using the existing cable routes. Well, let me come back to that. It's more using the existing DLC and SAI

locations that --

Q. DLC?

A. Digital loop carrier and serving area interface locations.

In the Hatfield model, the SAI or DLC is assumed to be placed in the center of the cluster and serves the lines, as I was explaining to Dr. Gabel. That's a more efficient way of provisioning a forward looking network than using the existing which may be on the edge of a serving area. And then you have longer loop lengths as a result.

What was I going to come back to?

JUDGE MACE: The cable run, the cabling around the lake or across the lake.

Q. Well, no, actually, I think you were --

A. Right, yeah, the other thing about the using existing cable routes, I think on the one hand that's a good thing in that you can eliminate the right of way issue, you know, this question about right of way. On the other hand, there may be multiple right of ways that you don't need to provision a forward looking network with. So to use every existing right of way and put cable in it just because it's there wouldn't make sense to me. So if they could find a way to use the existing rights of way to get to the locations that would give

you the most efficient distribution plant, I think that sort of melding of the two ideas would produce yet a better model.

Q. Well, I guess that's a good example, if Verizon's model uses existing rights of way, at least you know they do exist, and you can use them again, I believe.

A. Right.

Q. If --

A. But not every one necessarily.

Q. Right. But then in the HAI model, is it the case that there's simply and only a factor applied to a distance to determine the efficient --

A. As far as I know.

Q. -- cost?

A. But AT&T might be in a better position to give a better understanding than I can of it. But in places like Olympia here, there's existing public right of way all over the place, and so the notion that you're going to go from here to the Capitol and there's not going to be right of way available to get you over there given the rectilinear distance, you know, that's a fairly unlikely proposition. It may occur in cases.

Q. So you would say that the factor, however it's derived, probably accommodates existing right of

way and would use the most efficient one or would use the one that the factor --

A. Well --

Q. -- would use a factor?

A. Yeah, would use a factor that should fit within an existing right of way. And in some cases that rectilinear routing may be longer than you need. In other cases it might be shorter than you need. But it certainly makes sense, especially in the more rural, more urban areas of the network where you have the city blocks and streets all over the place that you're routing the cable down.

Q. Okay. In your discussion on structure sharing, which I will call pole sharing in this case, you described for Dr. Gabel how the HAI model or one version of it was originally developed I think, and you said that, I'm sorry, I don't know if it's we're talking about inputs or the model, but in any event you said that a group of engineers projected the number of pole users that would likely be present in any particular situation.

A. Correct.

Q. And then if, for example, you determined there would be six, then did you assume that each one would pay 1/6 of the cost of the pole?

A. Correct.
Q. And --
A. And there was -- there's more to it than that too, because in rural areas for example where electric is pretty much practically the major utility you're going to share your plant with, it's more likely to be shared in certain areas in certain routes than others. And so there's additional considerations that you have to put into the -- put into the pot if you will in trying to give full -- to get a full understanding of the potential for structure sharing in each of the density areas.
Q. Well, I was going to go to how you determine six, but at this point my question was simply, if you arrived at six, did you divide the pole cost by six to determine Verizon's share?
A. Well, the -- it would have been one divided by six, whatever that fraction is, that would be the responsibility of the phone company, right.
Q. Okay.
A. I believe.
Q. And in terms of how you got to, you know, six, eight, ten, or --
A. Well, I'm sorry, let me -- let me clarify this. We would have identified six potential providers,

and of that we went through them and we said, well, in this density zone you're really only going to have two or three, see, and that's what led to the percentages. For instance, there might be eight potential providers, but in reality there's only two that you're going to -- that it's likely where you're going to see sharing. And so that would have produced the -- a much higher percentage of the responsibility for the plant for the ILEC than in cases where you had three providers period and you expected all three of them to be in most of the places. So in that case, you would have a 33% sharing. In the latter case you would have 87% would be the phone company responsibility.

Q. So you first identified potential sharers but then made another judgment as to how many --

A. Of those --

Q. -- actual you were going to assume in the model?

A. Yeah, when it was reasonable to assume in a forward looking model considering also ordinances that cities have on sharing and the like. They require now that companies consult with each other when they're going to go in somewhere to put in plant so that they're creating as we go forward we're seeing I think more opportunities for companies to share.

Q. In this exercise you went through, in the urban areas say, did you assume there would be more than one facilities based telecommunications service?

A. I don't think so.

Q. So you were mainly looking at electricity and cable and wireline or --

A. I'm sorry, yes, we did consider like long distance providers. Like we knew from our experience that AT&T and Qwest or U S West at the time shared many facilities in downtown Seattle, conduits and the like, so -- so they -- and that's what was good about this exercise is I had about 40 or 50 years of actual engineers who had worked in the telephone industry all their lives in Washington to help sort through that process of coming up with these numbers.

Q. I think the issue I'm trying to get at is whether then you assumed more providers like maybe Covad or, I'm forgetting some of the names of these because they have now gone, but that was my point is whether you made assumptions about multiple pole users then that maybe we would not make now, and it sounds to me as if you did not primarily think of them in that way?

A. Right, we did not.

CHAIRWOMAN SHOWALTER: Okay.

JUDGE MACE: We'll break for lunch now, we'll

resume at 1:30.

(Luncheon recess taken at 12:00 p.m.)

A F T E R N O O N S E S S I O N

(1:30 p.m.)

JUDGE MACE: When we left off the Chairwoman had some questions of Mr. Spinks, and I think she has some additional questions.

E X A M I N A T I O N

BY CHAIRWOMAN SHOWALTER:

Q. Yes, we were talking about the HAI model versus the Verizon model. One question I had, is it necessary for the Commission to choose one or the other, or if we find that each has their strengths or dimensions, is it appropriate to take results from both of them either on the same measure or different measures?

A. Well, in past proceedings, we -- all the parties had asked the Commission to choose one or the other, and in fact that wasn't done. It has the benefit of making it a lot easier if one model or the other is used in that it gives some certainty to the process of determining costs for future purposes. So to that

extent, I believe parties, Staff included, would like it if we had the certainty of a model that we could use. I think I proposed in my testimony that if the Hatfield model were found acceptable that I could clean up this cluster data and correct those and put the time and resources into it to have something that we could use going forward. But again, in the past I think the Commission has found indeed that there were strengths and weaknesses to both models that precluded it from accepting one or the other. I don't know if we have arrived yet at the point where you can do that.

Q. In any event, our ultimate decision is setting prices, not adopting a model; is that right?

A. Yes.

Q. I was going to ask you about those clusters. You described what you did in the case of Aberdeen, and no one asked you the question why did you not replicate that exercise in other, I don't know if they were exchanges or wire centers or what?

A. That was performed in the context of a deaveraging proposal for Qwest that's been withdrawn from the case now. There were 15 wire centers involved, and I basically did it manually. If you were going to process all of the 111 or 109 wire centers that you have, you need to develop a batch process for doing that

and then process them all at once, which would take some time and resource to do that I didn't have at the time I did the Qwest wire centers.

Q. But it sounds as if you agree that if you want to make the outputs from the HAI model more accurate than they are, you would do that exercise for all locations?

A. Right, and I got the idea from a Minnesota study that I read where the commission or the staff or the Department of Commerce, I'm not sure which, had hired a consultant, a consulting firm, to do just that thing. They use it for the universal service line purposes. So they hired a consulting firm that came in and cleaned up the clusters for all the companies in the state and then used that model for the USF.

Q. All right. Another area, you said that you had used new inputs for certain subjects but not for others, and I wrote down that you said you use new inputs for depreciation, cost of capital, price of copper cable, and switching prices perhaps among others. I was not clear of the elements where you did not use an update what the reason was. It was unclear to me whether it was because the Commission had once approved it or because it wasn't a dollar amount that needs updating.

A. Yeah, for the former reason. The Commission had used them in the prior case. And again, my initial objective was to try to use a constant set of inputs across the cost model so that I could determine the differences in the costs that were derived from the models as opposed to the inputs.

Q. So your point is that if you used old out of date inputs for the HAI model, you would also use them for the Verizon model, and therefore no one was prejudiced by using them?

A. When I read the updated documentation for the HAI model, there were initially criticisms on -- in the older version about switching prices for instance and cable prices. And when I read the documentation, it satisfied me that, through that and some other sources, that, with the cable prices, that those updated inputs would be acceptable. They were acceptable to me.

Q. But why?

A. In the sense --

Q. I'm sorry.

A. Well, on the cable price -- on the switching prices it was because the FCC had accepted them, and so I assumed that they had looked at them and found them to be appropriate.

Q. Well, let me stop, that's a good example.

First of all, these prices are dollar amounts; am I right on that?

A. Yes.

Q. And then what, maybe you were asked this question, but what year did the FCC accept them as appropriate?

A. I was asked that, I ventured 1998.

Q. Okay. Then the question I have is why is a 1998 price, well, still good, or why wouldn't you try to update it to a new price if the FCC might be out of date; wouldn't you have to make that judgment?

A. The prices that we had used in the universal service case I believe were even older.

Q. Right. So isn't that a problem is what I'm saying. If we're determining prices, if prices are seven years old, then an average person would think they're probably not good anymore, shouldn't we try to update them?

A. Right.

Q. And there should be a good reason why you wouldn't I would think.

A. Yes. I didn't undertake to update inputs per se. It was to find an acceptable set of them that I could use across the models, that I was not so much asking the Commission to accept as they were but to

again make input prices constant across the models so that I could look at the difference in the costs caused by the models themselves.

Q. So are you saying your basic inquiry was into the models themselves, not the inputs, and if we -- and that it's our job or at least some other party's job to update those inputs?

A. Yes. That the decisions that you would make were by and large as far as I was concerned, Staff was concerned, in the main valid.

Q. Then --

A. Some of them like structure sharing, the use of structure sharing. Other -- I felt that it would be on AT&T and Verizon to show us that -- where and by how much various input prices should change.

Q. Okay. So perhaps this is oversimplistic, but are you saying that you are not in particular vouching for the dollar amount inputs put into the model?

A. Yes.

Q. You're mainly focused on the model itself?

A. Yes, we didn't undertake -- I had in past proceedings examined some input prices and provided some testimony like in the original generic. But in this one, the focus was on -- largely on the deaveraging and a different set of issues.

Q. All right. This may be a related point, but my memory is so short that I don't even know what my notes refer to now, but at a certain point in time you said you would have gone from 62 to 55, but you decided "to stay with what we had".

A. Right.

Q. First of all, can you remind me what --

A. Yes, that was in structure sharing update.

Q. Okay.

A. I looked at, considered updating the structure sharing, not based on a new analysis per se like as we had done in the first case, but based on looking at what other states around us had done. Minnesota, Colorado, and Arizona all had orders come out within a few months of each other back at the beginning of 2003, end of 2002 time frame, so I looked at what those commissions had done. And based on those three orders, I thought that we could make a case to increase the structure sharing in the lowest three density zones from 87% to 100%. It seemed like most of the commissions were, Colorado and Minnesota at least were -- had used 100% in that density range. But then in the middle three density range we had like 62% and they were all between 50% and 60%. So there we could have come down to 55% and we would have been right in line with

where the other states were. So they went in both directions.

Q. So why, my question actually is why didn't you, why did you stick with what you had and not make those changes?

A. Well, they were good too. There was nothing to overturn, if you will, the analysis we had done earlier on the structure sharing when we came up with ours. Those were still -- that was still a good analysis.

Q. So in other words, you did not find the later analyses better than yours?

A. Right, because it wasn't analysis per se. It was what commissions had determined after listening to evidence that I hadn't heard and wasn't sure, you know, I couldn't testify as to how they got to the 50% in the middle three ranges, whereas I recalled, and I didn't recite it quite correctly this morning, how we had done ours. But I knew -- I knew in my testimony that what we had explained was still sound and didn't -- it didn't need to be changed because it was somehow wrong.

Q. Okay. I just have a few follow-up questions on your testimony, and I think it begins in Exhibit 1060T, I'm sorry, 1062, I'm sorry, page 6. Some of these are not questions about specific testimony, but we

were on a certain page when you were giving answers that prompted my questions. This actually gets back to this issue about the HAI model being more efficient than the Verizon cost model. And if it's more efficient, why is it better for the purpose of setting prices? Is our goal to set the most efficient prices, or is it our goal to set an appropriate price? And if it's the latter, why is efficient better?

A. The FCC in its various pronouncements about TELRIC has sort of left holes in what they would allow or what they, you know, the way they described how things should be or could be big enough to drive a truck through. I mean you could -- you could be at one end where you model the network almost as it exists today, or at the other end where it's almost purely theoretical, and they're all TELRIC. You can't say that they're not TELRIC just because of the different interpretations you can put on the pronouncements the FCC has made about TELRIC.

What TELRIC stands for, total element long run incremental cost, though, long run incremental cost is an economic concept that I'm quite familiar with that involves allowing all your inputs to change. If you're going to have the term long run incremental cost as a description of a cost model, then it seems to me that it

should follow the precepts of what long run incremental cost is about. And what that's about is a cost minimization exercise in which you allow all inputs to vary. The only thing that the FCC held constant was the current locations of the wire centers. And then courts have subsequently determined other aspects of what's appropriate or not appropriate for TELRIC. And so you have to work within all of those to be compliant with TELRIC.

Q. Well, okay, but my question was, among TELRIC compliant prices, are the ones that are derived from a more efficient model better, i.e., more desirable as a matter of public policy or as a matter of fair and just rates for this Commission to adopt? In other words, are you equating more efficient with better and more desirable?

A. No, I'm equating -- cost minimization is another way of saying the most efficient. The long run cost -- the long run costing exercise is about minimizing your costs, not building up deliberately more expensive network for reasons that aren't necessary for the exercise that you're doing, which is the rebuilding of a network to serve total demand.

Q. So does that mean that you believe that the HAI model produces prices that are more efficient but

equally achievable in a real sense, not theoretical?

A. I think when it comes to prices, and this is where Dr. Blackmon was focusing his comments to you, we don't agree with TELRIC in the context that TELRIC equals price. That was where we had our beef and would do things maybe differently if we weren't constrained by TELRIC. But under TELRIC, the price has to equal TELRIC. Now and it's not to say that the price should be lower or higher I mean.

But what we had in mind was establishing long run incremental cost for each UNE that would serve as a floor and that there could be some flexibility for companies to vary the price between the long run incremental cost, not total element, but just the long run incremental cost and the price to allow -- to give them some flexibility in how they do that.

Now that's a two edged sword in that if there's still an effective monopoly out there and you give an incumbent that kind of pricing flexibility, then there's potential for competition to be thwarted by it, so. But if carefully done and correctly done, it's a scheme that could work and would probably take some of the problems and bitterness and the fighting that we have going on with TELRIC out of it if they had more flexibility.

Q. Well, I know, but I'm trying to limit myself to FCC-TELRIC-compliant prices or models producing prices, and I'm trying to understand. So far my sense from you is that HAI is better for us to use because it assumes more efficiency in the long run than Verizon's model assumes because Verizon's model is more rooted in existing facilities or roots facilities. And if that characterization is wrong, I would like to know. But I would also like to know why, why is it better to use that model. So it's a two part question.

A. Right. It's staying true to the model's name, long run incremental cost. It's not about trying to get the lowest prices or trying to get the cheapest UNE's you can get. It's about economics, the economics of long run incremental costing. Which model I ask myself is more of a long run incremental cost model, and the answer is the HAI is.

Q. Okay, that seems again --

A. Its' a necessarily theoretical exercise to calculate long run incremental cost no matter what.

Q. But to me this brings us right back to my very first question of you, I believe, which is it sounds to me as if you are saying that because HAI is more true to the concept of TELRIC, it's better.

A. Yes.

Q. Okay. But the next question is, why is it important for us to be truer to TELRIC than not? If we have a range of possibilities that are TELRIC compliant, according to you, why should we select the one that's truest to the theoretical concept?

A. Well, I'm testifying as an economist in the case, and to me that's what I would choose. Commissioners as policy makers have other considerations that maybe an economist doesn't know a lot about that it needs to put into the mix when it makes its decisions, so. And I'm not here to tell you what that is, but rather that as an economist what I would choose.

Q. So you're not recommending to us what we would do as a matter of policy, you're just giving your professional opinion that as a matter of economic theory the HAI model is more true to TELRIC than Vz?

A. Well, I haven't -- I haven't examined a number of the policy considerations that the Commission would likely examine in its deliberations, but I can tell you that there's an NPRM at the FCC on TELRIC and that once that comes out it's likely to change the playing field again in terms of what is TELRIC that may offer us both more guidance on how it envisions long run incremental cost to be calculated.

Q. All right, but my question was, is your

testimony limited to saying that HAI as a model is more true to TELRIC than Verizon's as distinct from saying HAI is a better choice for us in any -- in dimensions other than its measuring it by efficiency or TELRIC?

A. My recommendation is limited as an economist.

Q. And --

A. To telling you of the two models, which is the better representation of a long run incremental cost model.

Q. Okay, thanks. Let me see if I have any other questions.

If you could turn to 1064, page 6. Oh, 1065, I'm sorry, page 6.

A. Yes, I have that.

Q. I'm looking at line 13, which you say, my statement that HM 5.3 now explicitly models high capacity refers to the fact that in prior versions, I'm not quoting any more, loops were not included in the design. When you had the discussion of this, I thought what I heard you say is that, and that the high capacity loops were now part of I kind of understood rolled in to the model, that is they existed in there somewhere but actually were not explicit. My question actually is, is the word explicit confusing, and is implicit a better word?

A. No.

Q. No?

A. Maybe I haven't done a good job explaining the history of it. In the original case we used the actual line counts of total access lines, and for the purpose of this discussion say there were a million access lines that the company had total. The HD Hatfield model used all million lines, and it modeled single copper loops to serve all of those lines. But it was known that many -- over every DS1 facility there were up to 24 loops being provided over that one fiber cable or two twisted pairs for the -- that were providing the DS1. And so what was happening is you were getting economies of scale or scope in your cost estimates that weren't true to what -- how the network was really provisioned. That is that there were fiber cables and there were DS1 circuits instead of all of these copper pairs.

So what the Commission did in the original case is it determined through Bench requests or data requests that there were only 800,000 loops that were actually served by copper. So it took the 200,000 out and ran the cost model with the 800,000 loops and used that cost so that it would have -- it reflected proper scale and scope economies.

What the 5.3 version of the model did was it then explicitly put into the model DS1 and DS3 circuits that were carrying loops, channels, circuits, and modeled the fiber, modeled the DS1, priced out the equipment, put all that in so that it was truer to the way the network works today, and then uses all million loops, 800,000 of them are on copper pairs and 200,000 of them are running over DS1 and DS3 facilities. So that's what I meant by explicit.

Q. Okay. And are they trackable? I was having a hard time following what the issue was.

A. Well, as I understood Mr. Murphy's testimony, he had -- he was trying to determine in modeling those loops, some of those DS1 and DS3 circuits serve private line services for instance, and he was trying -- and so he was trying to determine, as I understood it, how many -- how the HM modelers had split up the total DS1 and DS3 circuits and channels between the services that we're not pricing in this proceeding and the services that we are pricing in this proceeding, and he was still awaiting at the time he wrote the testimony some -- a response to a data request in order to determine that. But in the meantime had -- throughout the statement that I was wrong in saying that it was explicitly modeled, and I didn't understand why he said that. Well, and I

thought that he had not understood what I had meant when I had said that the first time, and that's why I put this Q&A in here was to clarify for him that -- what I meant when I said that.

Q. Okay, thanks.

CHAIRWOMAN SHOWALTER: Thank you, that's all the questions I have.

BY CHAIRWOMAN SHOWALTER:

Q. Oh, wait a minute, I've got one more. This note of mine is from last week, so I can recall the context even less, but I have a note to myself to ask you whether you agree I believe it was with Verizon's witness on perhaps cost of capital that one should decouple UNE minutes of use from retail prices, that is they're independent of one another in terms of our setting those prices?

A. Yeah, I think what that discussion was about, the fact that retail services are flat rated, there aren't minutes of use, but companies currently charge a minute of use rate for access basically. And I believe AT&T is saying, if you sell them to the retail that way, you should sell them wholesale that way. And whoever it was that was talking said, no, you should uncouple them.

I don't know that I have an opinion about that. I don't think that the -- that how we do things

retail justifies what you do in the wholesale I guess is what I would say. But at the same time, I would just note that the Commission has in the past endorsed the concept of a capacity charge, which is what these flat proposals are all about is not explicitly charging for minutes of use any more.

CHAIRWOMAN SHOWALTER: Okay, thank you.

JUDGE MACE: Commissioner Hemstad.

E X A M I N A T I O N

BY COMMISSIONER HEMSTAD:

Q. My few questions are going to be at quite a generic or conceptual level. You I take it are suggesting some changes to the inputs to be used in the Hatfield model; that's true, isn't it?

A. Changes from prior Commission orders.

Q. And those kinds of input changes are relatively easily accomplished within the model?

A. Yes.

Q. Are you proposing any changes to the Hatfield model itself, not the inputs, but how the model works?

A. No.

Q. All right. So I take it then that the Staff position is to accept the model but then tinker with the inputs?

A. Partly. In saying that I'm not proposing changes in the model, I just want to point out that we -- the new data clusters, the new clustering algorithm, came in I believe in January this year.

Q. Well, is that an input question, or is that a model question?

A. That's a model question, that's part of how the model operates. That is I think one of the issues that the Commission will need to determine in this case is the validity, if you will, of the new clustering method. And I didn't have an opportunity in the time it came in to work with those.

Q. All right, now is that something that can be relatively easily accomplished?

A. Well, I believe that the Commission if it wants to see for instance a different clustering method used or a different size of cluster, the clusters are new conceptually in terms of the size of the distribution area they model. If the Commission doesn't find that to be appropriate for some reason, they could redo the clusters, or you could revert back to the existing clusters which were in the model before.

Q. But my question really is, assuming that the revised bundle of cluster information is desirable.

A. Right.

Q. Is that relatively easily accomplished as a model change, or does that have other ripple effect consequences in the model that would also then require other kinds of changes?

A. No, I don't believe they will require other changes.

Q. And is that something that the Staff, I'm jumping to a conclusion here or an inference that no one should take as a conclusion, but to go that route, is that something that the Staff would be able to accomplish, or is that something --

A. I think we would have to have the modelers redo it or TNS if the clusters were to be redone. I believe I read in Verizon testimony that the clustering process took about 72 hours to run to create the clusters, but that would be a one time thing. It's not something you would do and redo and redo, so. But if you, yeah, if you went to updated clusters of a different say area that they would cover, then you would ask them to redo those clusters. And once you had them, then you would have them, and they would be good for the future.

Q. Are there other issues where there would be the Staff would be proposing changes to the model itself?

A. I don't believe so. They have the menu for the structure sharing, I have a distribution module that's modified to do the loop length adjustments, so I'm not aware of other areas where it would require changes.

Q. You had intimated that it was your objective to try to get all of the inputs for either model to be the same and were not able to accomplish that. Can you describe briefly why?

A. Sure. The VzCost model has I think an, I don't know if the number is correct, but they might use four to six different sizes of poles, each of which has a different cost, and then selects the pole depending on the particular circumstance, and those have all different prices, maybe $300 to $700. The HAI model or the HM model uses one size pole, a 40 foot pole, with one price.

Cable is another. There might be shielded cable and unshielded cable and various types of cable used in a VzCost model for every different circumstance, and there's only one set of cables that are used in the HM model. So when I began to look at how I was going to equalize these, I quickly ran into a whole series of problems about how I could make them equivalent somehow.

COMMISSIONER HEMSTAD: That's all I have,

thank you.

JUDGE MACE: Commissioner Oshie.

E X A M I N A T I O N

BY COMMISSIONER OSHIE:

Q. Mr. Spinks, you referred to I believe the loop length adjustment as the great equalizer, and I have kind of a lay understanding of what that may mean, but I thought you could elaborate a bit as to what you meant by that.

A. Sure. Many of the issues that have been raised in this case have to do with a model either not building enough plant or building too much plant. And if you look through the testimonies, you will see issue after issue relating to that, that goes to that concern.

When we make a loop length adjustment though, what we do is no matter whether it overbuilt the plant in that wire center and underbuilt it in this wire center, if it overbuilt it here, we reduce the cable and cable related costs by the percentage that the loop lengths that were in the overbuilt wire center, they get reconciled with the actual loop lengths. So if there were 10% too much plant in this wire center, all of the loop related costs are reduced by 10%. If in another wire center it only built 70% of the plant that it

needed to build out there, then the costs in that wire center are increased by 30%.

So what the loop length adjustment does is bring some sense of sanity, if you will, back to the what the models will sometimes do for various reasons is err and err badly sometimes in their -- the way they model plant. Bad input data or other reasons can cause that. And so what the adjustment does though is it brings it all back to a single point.

Q. Do both the VzCost model and the HAI model allow for some adjustment of the loop length?

A. Yes, they do.

Q. Do you find that the adjustment mechanism in both models functions equally well?

A. Well, I wasn't aware of the VzCost mechanism. I don't believe that when they originally filed the model that it had that mechanism and that it was introduced in January, but I'm not certain of how that came about. I do know that the mechanism in the -- used in the HAI model, how that operates, because I have looked at that.

Q. Let me change subjects and refer you to your testimony, Exhibit 1062.

A. I have that.

Q. And I will also refer you to page 11, lines 2

through 6.

A. Yes.

Q. And there, if I can summarize, you state that Staff doesn't believe that Verizon is facing effective competition within its service area. You refer to information presented by Mr. West and also I believe Verizon responses to data requests. But I thought perhaps you could explain what factors, if you will, Staff analyzed in making its determination based on the responses from Verizon and the testimony of Mr. West that Verizon did not face effective competition in the service area?

A. Right, well, I will begin with clarifying on Mr. West didn't state that they had effective competition, he discussed competition as being serious, ongoing, well, if you read his testimony it speaks for itself, and I wanted to get a better handle on how serious, if you will, the competition was. So I asked them in a couple of several data requests for things like how many lines they had lost to competitors, and they provided me with several reports that they have showing their access line losses. I totalled up those access line losses and divided it by the number of lines that -- by their total access lines, and that's how I developed the 97%.

Q. Was that total number of access lines the real heart of the request, Staff Data Request Number 42?

A. No, the total access lines came out of the model. The heart of the data request was how many lines they had lost to competition. And I didn't cite any numbers, because that was all confidential, so I just used the percentage.

Q. And so then access line loss was the primary factor that you analyzed or was analyzed under your direction for you to reach an opinion that Verizon faced no effective competition in its service area?

A. Yes, which I believe is the -- what Staff would look to under RCW 80.36.330, effective competition, where it talks about effective competition. We would be looking to see 20% to 30% market share loss, somewhere in there, which isn't to say that there aren't market segments that may have some losses higher than 3%, it depends on the segment you look at, but in the main, all in all I think they certainly haven't lost anything near what like Qwest has lost.

COMMISSIONER OSHIE: I have no further questions, thank you.

JUDGE MACE: The Chairwoman has some additional.

E X A M I N A T I O N

BY CHAIRWOMAN SHOWALTER:

Q. I have some follow up, if you could turn to Exhibit 1065T, page 5.

A. Yes.

Q. This is another question about cost of capital, and my understanding is you take issue with Dr. Vander Weide on a couple of counts, but one is his use of a broad range of competitive companies that are not in the telecom business that is a sort of generic group of competitive companies, and the other was the use of market based value other than book value.

And I guess my question is, in light of our earlier exchange, I think his defense of it was, well, in a true competitive world, i.e., a kind of a long run TELRIC world, you really would have true competition, and therefore -- and therefore you must set your prices based on that future scenario. And you are saying here, but in the real world that is not Verizon's capital structure, and it is not one of those competitive companies. Now this to me sounds kind of like a reversal of roles where you're saying, pay attention to the real world, and he's saying, but TELRIC is TELRIC. So what is your answer to that?

A. Well, he is interpreting the FCC's

proclamations in the TRO regarding cost of capital as meaning that -- what he's done. And I think the question there, the heart of that is when the FCC talked about the cost of capital there, did they do that as if they had never made any prior proclamations about cost of capital? In other words, is this a complete replacement of everything that went on in the past about cost of capital, or was this in addition to what we already do with the cost of capital, what was already said about it.

And I guess I tend to see this as more an incremental measure where they were saying, oh, yeah, also we want you to treat the cost of capital like it's -- like you're operating in a fully competitive market. But in saying that, I didn't have the sense that they were saying, throw out everything that you know about the real world. I rather seen it not as an either/or proposition but more like a layer upon, well, you have the real world that you have to deal with, but for purposes of determining your overall cost of capital, we want you to consider that it's a fully competitive market out there. And while that may mean some higher cost of equity for example, I didn't take it to mean you have to take every piece of your capital structure and make it as fully competitive as you can get it. I think

that's an extreme view.

Q. Well, as an economist looking at efficiency and TELRIC, which view, Dr. Vander Weide's or yours, on this issue is more true to a theoretical model of competition?

A. I don't know that I can really weigh in on that very well. Again, I think his interpretation is an ultra competitive world that we live in. I have agreed in my testimony that some adjustment may be appropriate but that you don't need to go that far to be in compliance with the TRO. And certainly insofar as the capital structure goes, that to Staff seemed to be an area where we have some concerns about use of the market value. We think that the book value is forward looking, it is -- balances, it's managed on a daily basis by the company, it's adjusted accordingly to keep it safe, a combination of a safe and efficient, and we just didn't see the sense in going to a market based structure, so.

CHAIRWOMAN SHOWALTER: Thank you.

JUDGE MACE: Dr. Gabel had a follow-up question or two.

E X A M I N A T I O N

BY DR. GABEL:

Q. Mr. Spinks, I would also like to follow up on

the questions the Commissioners presented to you about matching up numbers between the two models, and specifically I would like to talk about structure sharing. Do you -- and for the purpose of this question I would like you to assume that within the Verizon model there's only one input for the degree of structure sharing, that it doesn't vary by density zone, okay?

A. Okay.

Q. And if you accept that assumption, that just one assumption is made for the amount of structure sharing for aerial cable that applies throughout the state or one assumption about the degree to which structure sharing applies to buried cable throughout the state, is it possible to match your recommendations on structure sharing that were adopted by the Commission in 960369 with the way in which I'm asking you to assume the Verizon model operates?

A. Yeah, I think you could estimate it. Let's see how you could do it. You could take the Hatfield model results at the before and after total investment and before structure sharing and then investment after structure sharing, divide the after into the total, and you would get an average percentage of sharing which you could then use to input in the Vz model if it operated that way.

Q. Thank you.

Next item I would like to move on to is after our luncheon break I understood you to state in response to a question from the Chair that you may have misrepresented or misstated how your sharing study was done initially. Did I understand that to be your testimony this afternoon?

A. Right, I was -- I was, well, I was thinking about it over lunch, what I had said, and something just wasn't clicking right that I hadn't quite figured out. And when I got back, there was my old testimony from 0369 and when -- and in reviewing it, then I remembered exactly the way it was done, which was identifying the range of sharing that would take place in any zone. That is we have identified a number of providers at the low and high end and then used the center point in that range to calculate the number.

Q. All right.

And then a final item, Mr. Spinks. I understood you to state in response to a question from the Chair that if a Commission finding was made in this docket, you would like to go back and work with the clustering data. And you made some reference to what was done in Minnesota. But then I understood you in response to a question of Commission Hemstad that you

said, well, reclustering would need to be done by TNS. So I'm not clear about what you would want TNS to do as opposed to what you think you could do and what needs -- what you think needs to be done. So I guess first is what you think needs to be done, and then what is it you feel you could do independently of what TNS would need to do?

A. What needs to be done is the clusters need to be projected to see that they're properly located or not. If they're not, they need to be adjusted accordingly. And in my cross from Verizon, I believe it was, the question was asked whether the DLC's would still be in the right location or whether some additional equipment would be needed, and to that I don't know. It would depend on the degree of that the clusters were misplaced possibly. There may be nothing that needs to be done to them.

But in response to Commissioner Hemstad's question, what I was referring to there was the new clusters are about a magnitude of about four times larger than the older clusters, and so they're bringing these efficiencies out of the design of the distribution network, and much testimony has been submitted by Verizon saying that's wrong, has errors in it. If that turns out to be the case, then if you were to use a

model, you may want some -- to have the clusters redone to correct those errors. That would have to be done through the 72 hour run where they redo the clusters.

Q. And then just following up then on the line of cross-examination by Commissioner Hemstad, for this first area, ensuring that the DLC's are properly located within a cluster, this would be work that you would propose to do yourself and --

A. Well, I don't have the program to do the actual clustering with if changes have to be made. Now if they don't have to be made, I can do all of the cleanup work in terms of determining if they're located properly or not, and if not, putting them in their proper location and developing the new radial distances.

DR. GABEL: Thank you.

JUDGE MACE: Ms. Ronis.

MS. RONIS: Yes, thank you.

C R O S S - E X A M I N A T I O N

BY MS. RONIS:

Q. Mr. Spinks, you testified in response to a question from Commissioner Oshie that the loop lengths are the great equalizer, excuse me, your loop length adjustment is the great equalizer, correct?

A. Yes, well, he was asking me to explain what I

meant by that.

Q. But loop lengths aren't the only component of loop costs; isn't that correct?

A. I'm sorry, would you repeat that?

Q. Loop lengths are not the only component of loop costs?

A. Well, loop lengths measure the amount of cable per loop that you have put in. When you do the adjustment, you're not just adjusting that, you're adjusting all of the associated structure costs with it. All of those related costs all get adjusted at the same time. One other thing I will point out is it's not the only way to adjust it. Using the strand feet of cable, for instance, might be a better way to perform the adjustment. However you do it though, the point is you can take the over or underbuilding that a model does and largely offset the effects that -- the inaccurate effects it would have by -- through some reconciliation process, be it loop points or a strand adjustment.

Q. Are you saying that your loop length adjustment also adjusted the Hatfield model so it reflected the actual number of digital loop carrier terminals in Verizon's actual network?

A. No.

Q. What about the actual number of SAI's in

Verizon's network?

A. No, you wouldn't be adjusting those to their actuals, because you wouldn't want to do that. If you placed the proper amount of terminals to provide the service to begin with, there's no need to increase or decrease those when you make this loop length adjustment, at least that I'm aware of.

Q. So when you refer to downstream investments, I may be misquoting you and you can correct me, you just meant the cost for the cable itself, that that was adjusted through your adjustment?

A. No, the program that does the adjustment totals up all of the loop related costs. All of the costs that are distance sensitive are aggregated and then adjusted upward or downward. So if it's distance sensitive, it's in there. Like the number of poles would be adjusted, so if you needed more poles, my understanding that it includes that. The feet of trenching for underground, the feet of conduit for buried, that all of those distance sensitive investments are included in this adjustment.

Q. You just testified a moment ago that at the break you had a chance to review or when you returned from the break you had a chance to review your testimony filed in the 1998 UNE proceeding, correct?

A. Right.

Q. And that was provided by me, correct?

A. Yes, but I had thought about it over lunch and realized that something -- that I hadn't quite explained it right, and I didn't need to look it up because you had, so I thank you for that.

Q. Now so I'm not clear if you're saying there are some additional studies you did to support your structure sharing, or is it just this testimony where you picked a range?

A. This testimony summarizes what we did. Again, what we did was to sit down and look at -- this is just a summary of the process, and I had misstated exactly what -- how that process had worked. But no, there's not -- there's not some study out there that's not in the record.

JUDGE MACE: I think I want to ask at this point, since it appears that you do have copies of this testimony and it's been referred to that we have it marked as an exhibit for purposes of identification so that when we go through the record we have this available to us.

MS. RONIS: Sure, I was going to do that.

JUDGE MACE: Do you have copies for the Bench?

MS. RONIS: Yes.

JUDGE MACE: This will be 1069, it will be a cross exhibit Mr. Spinks.

MS. RONIS: So I really wasn't going to do much more than this, than to ask that it become part of the record and also whether counsel could make part of the record any studies that support it since particularly in response to questions from the Bench we got into a lot of details about his prior recommendations in 1997 on structure sharing. So I'm still not clear if there are studies or not, but we would like whatever you have supporting your testimony to be produced. We're not clear whether it was produced in the 1997 proceeding or not. We couldn't find it. We could only find this testimony.

JUDGE MACE: Mr. Spinks, are there studies?

THE WITNESS: No, ma'am.

JUDGE MACE: No.

MS. RONIS: I have nothing further, so I would just like to move into evidence Exhibit 1069.

MS. SMITH: No objection.

JUDGE MACE: I will admit it.

Ms. Smith, did you have any redirect?

MS. SMITH: Very briefly, Your Honor.

JUDGE MACE: Go ahead.

R E D I R E C T E X A M I N A T I O N

BY MS. SMITH:

Q. To begin with, Mr. Spinks, do you recall your question and answer from earlier this morning with Ms. Ronis regarding the drop lengths referred to in the Commission's Eighth Supplemental Order in UT-960369?

A. Yes, I do.

Q. Did you use the loop lengths from that order in your analysis for this docket?

A. They were drop lengths, and the answer is no. I was referring to UT-980311 for drop lengths for that input. And in that order, the Commission had indicated that it was using those but it preferred for drop length studies to be done. And one of my first DR's to Verizon was whether it had updated its drop length study. It indicated it had not in response to the data request. And that's why I continued to use the drop lengths that were in that order.

Q. There was also a question from Ms. Ronis this morning about whether you examined the TNS source code, and your answer to that question was no. Why didn't you do that?

A. Well, as I discussed in my rebuttal testimony I think, one could do that as a way to see -- to

determine how accurate the clusters are, but I think a better way to do that is to after the fact to look at -- and a cluster defines a given geographic area, you can survey the area covered in there and see how many residence and business customers that you have in that area and compare it with what the model -- with what the cluster says it says are in that area. So rather than working through all of the complex preprocessing programs, it seemed to me a much easier way to judge the accuracy of the clusters would be to, on the back end, to compare what come out of it with what was actually out there.

Q. And finally, following up on the Chairwoman's questions on the factors that distinguish the HAI model from VzCost, are there any factors other than the assumptions about actual versus hypothetical route configurations that lead you as an economist to recommend the HAI model over VzCost?

A. I'm sorry, could you repeat that, I missed that.

Q. Yeah. You had an answer in the Chairwoman's questions, there were a lot of questions about the factors that distinguish the HAI model from VzCost, and the discussion was surrounding assumptions about actual versus hypothetical route configurations. And my

question to you, are there any other factors about the HAI model that lead you to recommend it over VzCost as an economist?

A. Well, I have been using the HAI model for a number of years, and I appreciate how easy it is to use, its lack of being overly complex, and the fact that it produces a more efficient result.

MS. SMITH: That's all I have, thank you.

JUDGE MACE: Ms. Ronis, anything else?

MS. RONIS: No.

JUDGE MACE: Anything else?

Yes, Dr. Gabel has a Bench request for this witness.

E X A M I N A T I O N

BY DR. GABEL:

Q. Mr. Spinks, in response to a question regarding how you could take your density zone sharing assumptions and reduce them down to one number for aerial, buried, and underground structured, you said that you could look for some guidance from the Hatfield model.

A. Yes.

Q. Do you recall that response?

A. Yes.

Q. All right. As a request from the Bench, could you identify where within your workpapers that information could be found and actually make the calculations so we're including in your response the worksheet number and the cell reference?

A. Yes.

DR. GABEL: Thank you.

(Bench Request 8.)

JUDGE MACE: One last thing, Ms. Ronis, you caused to have marked some cross exhibits, actually two of those I suggested be marked, and they were the prior testimony because --

MS. RONIS: I mentioned them.

JUDGE MACE: -- you mentioned them. And you now just offered 1069, but you did not refer to the other three exhibits, are you not offering those in evidence?

MS. RONIS: No, we do not need to offer them into evidence.

JUDGE MACE: All right, thank you very much.

You're excused, Mr. Spinks, thank you.

THE WITNESS: Thank you.

JUDGE MACE: We'll take a break at this point for 15 minutes and then go to Mr. Turner, who I believe is our next scheduled witness.

MS. RONIS: I consulted with Mr. Kopta and asked him if he wouldn't mind if we switched Mr. Gillan and Chandler around and went next to them and then to Mr. Turner, and he said that would be fine.

JUDGE MACE: All right, that's what we'll do then.

MS. RONIS: Thank you.

(Recess taken.)

JUDGE MACE: Would you please stand, gentlemen, raise your right hands.

(Witnesses Richard Chandler and Joseph Gillan were sworn.)

JUDGE MACE: Mr. Kopta.

MR. KOPTA: Thank you, Your Honor.

Whereupon,

RICHARD CHANDLER AND JOSEPH GILLAN,

having been first duly sworn, were called as witnesses herein and were examined and testified as follows:

D I R E C T E X A M I N A T I O N

BY MR. KOPTA:

Q. Mr. Gillan, will you state your name and business address for the record, please.

A. (Mr. Gillan) Yes, Joseph Gillan, P.O. Box

541038, Orlando, Florida 32854.

Q. Mr. Chandler, would you provide the same information for yourself, please.

A. (Mr. Chandler) Richard Chandler, care of HAI Consulting, Incorporated, 1355 South Boulder Road, Number 184, Louisville, Colorado 80027.

COMMISSIONER HEMSTAD: Can we be off the record for a moment.

(Discussion off the record.)

BY MR. KOPTA:

Q. Gentlemen, I'm going to ask you a series of questions directed to both of you, and I would like Mr. Gillan to answer first and then Mr. Chandler.

Do you have before you what's been marked for identification as Exhibit 801T, which is the joint direct testimony of Joseph Gillan and Richard Chandler, Exhibit 802TC, which is the confidential joint rebuttal testimony of Joseph Gillan and Richard Chandler, and Exhibit 803T, which is the joint reply testimony of Joseph Gillan and Richard Chandler?

A. (Mr. Gillan) Yes.

A. (Mr. Chandler) Yes.

Q. Were those exhibits prepared by you or under your direction and control?

A. (Mr. Gillan) Yes.

A. (Mr. Chandler) Yes.
Q. Do you have any changes to make to your testimony at this time?
A. (Mr. Gillan) Yes.
A. (Mr. Chandler) No.
Q. Would you identify the changes?
A. (Mr. Gillan) Okay, I will take the fall for this one.
JUDGE MACE: Go ahead, Mr. Gillan.
A. (Mr. Gillan) It is to the joint rebuttal testimony, which I believe is 802TC on page 11, line 16, Verizon's last round of testimony correctly pointed out that they had not updated some usage numbers in ARMIS since 2000. And so using the most current numbers from 2000 on line 16, their proposed switching charge would instead of being $17.28 it would be $16.05.
And again on page 12, providing essentially the backup information for that on line 10 where it says 2003, that should say 2000.
And on line 11 it should say 2,700 minutes per line instead of 2,900 minutes per line.
Q. And with these corrections, are the exhibits that I have identified for you true and correct to the best of your knowledge?
A. (Mr. Gillan) Yes.

A. (Mr. Chandler) Yes.

Q. And if I asked you the same questions that are contained in those exhibits, would your answers today be the same?

A. (Mr. Gillan) Yes.

A. (Mr. Chandler) Yes.

Q. Have you prepared a summary of your testimony?

A. (Mr. Gillan) Yes.

A. (Mr. Chandler) Yes.

Q. Would you please provide those now.

A. (Mr. Gillan) Obviously given the time and the lateness of the day it's a very brief summary. Our testimony focuses on a single issue, and that is to propose a more economically sound and cost based rate structure for local switching. And that rate structure would be a simple price per port for the switch without an additional charge for usage. The reason for this is that the usage price in the switching is largely an historical anachronism. It reflects pricing circumstances and technological circumstances that no longer exist.

The pricing circumstance was that historically the telephone company wanted to provide a variety of services using its switch, and in order to

justify prices in a rate of return rate base environment, it had to be able to come up with a discreet cost for each of the individual services which gave the need -- rise to the need to allocate the cost of the switch between different uses.

In a UNE environment, which is what we're talking about here, the lessor of the switch, the CLEC that leases capacity, does it on a per subscriber basis. And just like the local telephone company, who obtained the switch without paying a usage rate to the manufacturer, the CLEC -- we're proposing that the CLEC would lease that capacity on a per port basis.

The technological reason will be addressed by Mr. Chandler, which is fundamentally that years ago when switches were manufactured they were limited in their capacity to handle usage, but that limitation with modern technology no longer exists, and Mr. Chandler will explain that further.

Finally, our testimony also provides you a summary of the rates, the flat rate charges established by other commissions recently, including the Wireline Competition Bureau of the FCC in a Virginia arbitration. And while we're not proposing the rate by the support by Mr. Mercer, the rate of $2.81 that AT&T and MCI are proposing fits squarely in that range of rates

established around the country by the five state commissions that have adopted this rate structure and the Wireline Competition Bureau.

JUDGE MACE: Mr. Chandler.

A. (Mr. Chandler) As Mr. Gillan said, the purpose of my testimony is to demonstrate that there is no longer any technical basis for usage based switching. It used to be the switches would exhaust real time processor capacity back in the receding past. The -- over the years advances in processor technology as well as software engineering practices have brought us to the point where that's no longer the case, that switches these days are virtually unchallenged by the demands offered by subscribers.

I will give you an example. When the 5ES from the time AT&T was first commercially deployed in about 20 years ago, around 1980, it had a processor capacity of about 100,000 busy hour calling times, and today that -- the modern version of that same switch, the one that carries busy hour today, has a processor capacity of 2.5 million busy hour calling times. And other manufactured switches have seen and enjoyed similar profound increases in capacity.

Also, when a -- and again, according to current practice, when a -- when a carrier orders a

switch from a vendor, they do little more than specify the number of lines and the mix of lines, the type of lines and switches to serve. Then the vendor performs all the equipment configure -- goes through all the equipment configuration steps, manufactures the switch, and ships it to the carrier. And to the extent the vendor has to accommodate high usage lines, the vendor will adjust concentration ratios within a switch.

And conceptually and technically this is essentially identical to what one does when one engineers a digital loop carrier and, I'm sorry, an integrated digital loop carrier system, which is a flat rated -- is a flat rated entity as far as cost is concerned. So my conclusion is there is no -- there's no technical basis whatsoever with forward looking technology for usage based switching loops.

MR. KOPTA: I move for admission of Exhibits 801T, 802TC, and 803T.

JUDGE MACE: Is there any objection to the admission of those exhibits?

MS. RONIS: No objection.

JUDGE MACE: Okay, I will admit them.

MR. KOPTA: Mr. Gillan and Mr. Chandler are available for cross-examination.

JUDGE MACE: Ms. Ronis.

MS. RONIS: Thank you.

C R O S S - E X A M I N A T I O N

BY MS. RONIS:

Q. Good afternoon, Mr. Gillan and Mr. Chandler, Catherine Ronis from Verizon.

If AT&T terminates traffic from a Verizon customer, Verizon pays AT&T reciprocal compensation, correct? Either one of you can answer this.

A. (Mr. Gillan) I believe that's the case.

Q. And typically part of the reciprocal compensation rate is the per minute of use either for the tandem or the end office; isn't that correct? At least one part of it would be the per minute of use established for local service?

A. (Mr. Gillan) That's generally the way it is arranged in -- except in those states that have adopted a bill and keep arrangement or a zero compensation rate for that traffic exchange.

Q. So Verizon -- and in those cases where there is a per minute of use rate structure for local switching, Verizon would pay AT&T that per minute of use rate for each terminating minute of the call from Verizon to the AT&T customer, correct?

A. (Mr. Gillan) Well, yes, because it's a

reciprocal obligation for every minute that AT&T would have Verizon terminate for it. AT&T would have to pay Verizon the minute of use rate if one still exists. So the reciprocal obligation would be that Verizon would pay AT&T as well.

Q. Correct.

Are you familiar with the fight between the ILEC's and the CLEC's regarding how a CLEC serving an ISP, Internet service provider, should be compensated for calls made to that ISP?

A. (Mr. Gillan) The one from like three years ago, yes.

Q. And now people call their ISP, but ISP's typically don't call their customers back; is that a fair characterization?

A. (Mr. Gillan) Yes, but that has nothing to do with this issue, because you would never use unbundled local switching to serve an ISP. You use unbundled local switching to serve regular residential and small business customers who make and receive phone calls. The ISP issue is unrelated to the question here.

Q. But we do agree that calls involving an ISP typically only go one way, to the ISP?

A. (Mr. Gillan) Yes, but again, it has nothing to do with unbundled local switching, which would never

be used to serve an ISP.

Q. And during this debate, Verizon and the other ILEC's were arguing that these types of calls, calls to an ISP, should not be subject to the general reciprocal compensation scheme established for local service; is that your understanding, correct?

A. (Mr. Gillan) Yes, although I would say that their general position was they were all in favor of a high usage rate for switching until they had to pay it, and then they reversed their position.

Q. So but AT&T was arguing and other CLEC's that they should be getting the same reciprocal compensation per minute of use rate established for local switching for calls made to an ISP, correct?

A. (Mr. Gillan) I believe that's what they believed the term reciprocal meant.

Q. So in 2001, the FCC issued a ruling regarding compensation for calls made to ISP's, correct?

A. (Mr. Gillan) Yes.

Q. And in that decision, the FCC found that ISP bound traffic would no longer be subject to the reciprocal compensation rules applied to local traffic and established a transitional program for that compensation; is that --

A. (Mr. Gillan) That's my recollection.

Q. All right. Now let's turn to what AT&T was saying about the per minute of use rate structure around the same time. You state first on -- in your direct, which is Exhibit 802, strike that, it's 801, page 13, and on line 13 you first talk about the introduction of the 5ES in 1982, and then you go on to talk about the dramatic increase in switch processor memory through 1998. Is that a fair characterization of what you say on these pages?

A. (Mr. Chandler) Well, I will respond to that. It doesn't specifically say processor memory, but yes, generally that's what it says, that processor capacity has increased to 2 1/2 million busy hour calling times.

Q. And you are referring to 1998 in particular?

JUDGE MACE: Again, you need to speak into the microphone. Please make sure that your voice stays at an even level so that we can hear. It's dropping down and we can't hear what you're saying.

MR. CHANDLER: Okay.

JUDGE MACE: And please speak clearly.

MR. CHANDLER: Okay, I will keep it right here.

BY MS. RONIS:

Q. And on line 16 on page 13, you are talking about the increases in 1998?

A. (Mr. Chandler) Yes.
Q. And your testimony doesn't talk about any increases, dramatic increases since then, correct?
A. (Mr. Chandler) Well, the testimony does say on line 17 that:
The further improvements to increase the capacity beyond 2 1/2 million busy hour call --
JUDGE MACE: Again, now I'm sorry, but when you speak that quickly, it's really hard --
MR. CHANDLER: Okay.
JUDGE MACE: -- for the reporter --
MR. CHANDLER: Okay, I will --
JUDGE MACE: -- to hear what you're saying.
MR. CHANDLER: I will speak more slowly, I apologize.
A. (Mr. Chandler) And so once again in line 17, I state:
Further improvements to increase the capacity beyond 2 1/2 million busy hour calling times were reported -- were reported that year.
BY MS. RONIS:
Q. That year being 1998?
A. (Mr. Chandler) That year reported 1998. And

I will point out that if one goes to the Lucent web site, you will see that the 5ESS processor capacity is advertising 2.5 million busy hour calling times today.

Q. Now AT&T filed before this Commission in 1998 a version of the Hatfield model that showed a traffic sensitive/non-traffic sensitive split of 70% and 30%; are you aware of that?

A. (Mr. Chandler) That's correct.

Q. And that was filed in 1997?

A. (Mr. Chandler) That may be true, I would have to check. That sounds about right.

Q. And in the Virginia proceeding that you mentioned, AT&T filed testimony in 2001 with attaching a model, the FCC synthesis model, that's also the same 70% traffic sensitive, 30% non-traffic sensitive split, correct?

A. (Mr. Chandler) That may well be true. I have no knowledge of that proceeding.

Q. Would you accept that subject to check?

A. (Mr. Chandler) Yes.

Q. And in that proceeding also in direct testimony, AT&T's witness, a different witness, proposed a traffic sensitive/non-traffic sensitive split of 40%/60%; would you accept that subject to check?

A. (Mr. Chandler) Yes.

Q. And in that same proceeding, the Virginia proceeding, in rebuttal, would you accept subject to check AT&T changed its split from 16% to 16% traffic sensitive, 84% non-traffic sensitive?

A. (Mr. Chandler) I will accept that.

Q. Would you also accept subject to check that on surrebuttal in that same proceeding, AT&T again changed its split to 23% traffic sensitive and 77% non-traffic sensitive?

A. (Mr. Chandler) I will accept that as well. As I said, I have no awareness of that proceeding.

Q. But you didn't actually --

A. (Mr. Gillan) I think that mischaracterizes AT&T's testimony. Although neither one of us were involved in that proceeding, reading the order issued by the FCC, I understood AT&T's position to focus on a single piece of the switch that may have some relationship to busy hour minutes, not usage, more generally. And then followed from that a suggestion that the commission consider recovering that on a usage basis, and the percentages might have fallen out from that, but I don't think it's fair to characterize it from the perspective of the resulting allocation.

Q. But we are in agreement I think that the overall result was the traffic sensitive/non-traffic

sensitive splits I mentioned? Or you can check that if you will accept --

A. (Mr. Gillan) I would certainly stipulate that AT&T's position has been refined over a period of time on this question, and that during the period of time it was trying to allocate the cost between traffic and non-traffic sensitive. Since that was an arbitrary exercise, it tended to bounce around.

Q. Now turning to another subject, companies hire switch engineers to determine how to deploy switching in their network; isn't that correct?

A. (Mr. Chandler) I assume they still do that.

Q. And would you agree that one thing switch engineers do before installing a new switch is analyze expected usage in the calling patterns that they can expect on that switch?

A. (Mr. Chandler) To the extent they do that today, it's much, much less than they did in the past when switches would exhaust real time capacity routinely. They no longer do that.

Q. But you would agree that they still do it to at least some extent?

A. (Mr. Chandler) I really would rather not speculate. My -- well, go ahead.

Q. Would you agree then that switch engineers in

determining what to buy will consider the type of switch to buy, the number of peripherals to buy, the type and capacity of the CM's which are communication modules I believe?

A. (Mr. Chandler) It depends on the switch architecture, there are switch architectures that have communication modules, yes.

Q. But the --

A. (Mr. Chandler) And that --

Q. Go ahead.

A. (Mr. Chandler) You go ahead.

Q. But the switch engineer has to consider all these factors in determining what to buy and how much to buy, correct?

A. (Mr. Chandler) That task these days is largely the providence of the switch vendor. As I said in my summary, the typical -- the typical information given by a carrier to a switch vendor is the number and types of lines to be served, and the switch vendor generally carries out most of the configuration task.

Q. Is the switch vendor considering usage and calling patterns in determining what to give the customer?

A. (Mr. Chandler) Well, to some extent. As I also mentioned in my summary, the switch vendors will

consider line usage, per line usage figures expressed as traffic numbers, typically CCS, and use those values to adjust concentration ratios on the switch, yes.

CHAIRWOMAN SHOWALTER: What's CCS?

MR. CHANDLER: I'm sorry, CCS stands for seconds, call seconds, it's a typical measure of telephone traffic used primarily in the United States.

A. (Mr. Gillan) I think we would all agree that the switch manufacturer does design the switch so that there's no usage consequence. They take that into consideration so that when they design the switch that there is no cost effect.

JUDGE MACE: I think I would like to go back to the CCS concept and make sure that we have on the record a definition of what that is. Could you discuss that a little bit, give us a definition.

MR. CHANDLER: Sure. The standard traffic unit as I mentioned used in the United States is again CCS. 1 CCS is 100 seconds of usage typically during -- measured during the busy hour under whatever busy hour definition might be in place. But in the simplest terms possible, the 1 CCS represents 100 seconds or 1 minute 40 seconds of usage during the busy hour.

JUDGE MACE: Thank you.

BY MS. RONIS:

Q. Well, let's turn again to Exhibit 801, which is your direct testimony, page 20, lines 10 through 13, and let me read it for the record:

> Switches, like other equipment or facilities, are constructed to have a certain capacity. Not surprisingly, switches with greater capacity cost more on a per line basis than switches with less capacity.

I read that correctly?

A. (Mr. Chandler) Yes.

Q. So you agree with me, don't you, that customers and engineers buy different types, different sizes of switches for their network? In other words, there's not just one switch out there that serves all needs?

A. (Mr. Chandler) That's correct.

Q. And would you agree that there are differences among switches in things other than the number of lines served by that switch?

A. (Mr. Chandler) Can you elaborate, that's a vague question.

Q. Things like different processor sizes, different CM capacities, those are all different factors that go into a makeup of a switch?

A. (Mr. Chandler) Yes, switches will have different configurations.

Let me, as long as we're on the subject, let me go back --

MS. RONIS: Can I object to this and have him do it on redirect. I'm not sure what he's about to say, but it doesn't sound like it's responsive to my question.

MR. KOPTA: We have given witnesses in this proceeding a great deal of liberty to explain in response to my questions, I would ask that my witnesses have the same liberty to explain in response to Ms. Ronis's questions.

MS. RONIS: I guess it's the while we're on the subject that threw me.

JUDGE MACE: Right, it's not clear to me that what he was going to say was responsive to her question. And we do give witnesses some latitude, but he appeared to be finished with his answer, and I think I would like to go on to the next question at this point.

BY MS. RONIS:

Q. Let's turn to Exhibit 801 again, page 4, this is your direct testimony, and refer you to lines 14 and 15. And there you're stating that:

The modern switches are designed to

reach capacity limits based on the number of lines connected to these switches, not the usage through them. Did I read that correctly?

A. (Mr. Chandler) Yes.

Q. Now to determine the total number of lines to serve by a given switch, the company will consider the usage and calling patterns for each one of those lines, correct, in determining the number of lines to buy?

A. (Mr. Chandler) No.

Q. So if there's 100,000 customers in a given CO, will a company always buy a switch, one switch that has 100,000 lines to serve those customers?

A. (Mr. Chandler) I would suspect that would be the typical case, yes.

Q. Do you know if Verizon has more than one switch in its -- in say the majority of its central offices?

A. (Mr. Chandler) I suspect it does not have more than one switch in most of its central offices. Certainly in some wire centers there will be multiple switches for reasons that may have nothing whatsoever to do with capacity.

Q. In other words nothing to do with the usage that they expect on each particular line?

A. (Mr. Chandler) That's correct.

Q. Do you agree with me that a switch serving 28,000 lines could have more capacity, or strike that, more usage than a switch serving 100,000 lines, more usage running through that switch?

A. (Mr. Chandler) Do you want to talk about usage in terms of holding time, busy hour call attempts, feature activations, what's your measure of usage here so I can answer your question?

Q. Call attempts and call holding periods.

A. (Mr. Chandler) Oh, it's very unlikely. It could certainly happen mathematically, but I suspect that that would be a pathological case.

Q. Well, you mentioned features, would higher feature usage cause more call processing time and more processor occupancy?

A. (Mr. Chandler) Yes, a processor has to do more work to process features than if it doesn't process features. But the point is that processor capacity is so large in forward looking switches that even feature activation does not exhaust real time. Manufacturers make a point of this when they advertise their switches. One can consult any of several Web sites where manufacturers tout the increased capacities, both traffic and real time, of their switches as greatly

reducing the tasks one has to go through in sizing the switch for commercial deployment. It just makes it easier.

Q. Do you agree that the length of a call or call length has an impact on usage?

A. (Mr. Chandler) No.

Q. Would you agree that the quantity of call attempts have an effect on usage?

A. (Mr. Chandler) What do you mean has an effect on usage?

Q. That it uses more processor capacity and more switch fabric as I think you referred to.

A. (Mr. Chandler) Call attempts have no effect on switch fabric. Switch fabric is not an issue. Historically and currently switches just essentially never exhaust switch fabric capacity, traffic capacity.

Q. So is it fair to say that the bottom line is that you believe a flat rate switching structure is appropriate because vendors now offer large switches that can account for all possible anticipated usage in that central office?

A. (Mr. Chandler) I wouldn't phrase the statement that way. You said large switches. They will provide switches with significant excess capacity to handle anticipated usage, yes.

A. (Mr. Gillan) And that is one of the reasons why we're making this recommendation. I mean the reality here is that Verizon does not pay for these switches on a per minute of use basis. The check you write the manufacturer doesn't go up or go down based on the calling pattern of customers that you're serving. The CLEC's are competing with Verizon for that same group of customers. In order for the CLEC's to have a nondiscriminatory rate structure and for you to be fairly compensated, it's important that the CLEC compensate you in a manner that's comparable to the way you have incurred the cost and paid the manufacturer.

There is no degradation in value of the switch as calling goes up and down. I mean if you go buy used switching, they don't give you a discount because it has high usage and it was used -- it wasn't used much on Mother's Day, we'll give you a good price. That's not how switches are priced, so the primary reason we're recommending this rate structure is that it is more cost based and more closely tracks how the -- how you also incur the cash cost for these switches than the current rate structure.

Q. But you do agree that Verizon pays more for a larger switch that its designed to account for larger usage than a smaller switch that they have designed to

account for lower usage?

A. (Mr. Gillan) And if that's true, the CLEC's would compensate you more for capacity in that switch than in a less costly switch. Your cost recovery is more -- tracks more closely the way that you have incurred the cost.

A. (Mr. Chandler) and by the same token, the ILEC will spend more for a DLC system that serves high traffic users than it does for a DLC system serving the same number of relatively lower usage customers.

Q. So if the vendors decided to stop offering the larger capacities and rolling it up into one price and instead started pricing things in smaller increments that Verizon would have to then update and purchase as usage exhausted, then your position would change?

A. (Mr. Gillan) Well, if the vendors decided to make their product less useful to you and more expensive, then we would expect that there would be a cost proceeding where those consequences would be addressed. But as a practical matter, you know, let's be real here, switch vendors are not going to be making -- are not going to try and impose on you a rate structure where you pay them based on the minutes of use through these switches because you would not tolerate it. And quite frankly, we can't tolerate it, CLEC's can

not tolerate it either. It's not the way switching costs are incurred.

Q. But do you agree with me then that your argument boils down to the fact that the vendors have decided to offer their product one way versus another way?

A. (Mr. Gillan) I don't know if I would say that it boils down to, but if a vendor is willing to sell you something a certain way, then there's no reason for you to try and peek behind their pricing to figure out what their reasoning was. You don't do that for any other input to the network. You don't -- when you put -- plug into the cost of your telephone poles, if the vendor decides to sell it to you on a $10 per pole basis, you plug into the model $10 per pole. You don't sit there and try and find out, well, why did the vendor charge me $10 per pole, shouldn't he have charged me $4 per pole plus $6 per inch plus, you know, $3 for water content because that's the way his cost structure is and then try and build that into your cost model. You just look at the way the vendor sells it to you, and that's all that this proposal is. There's no usage rate in what you pay the vendor, we don't want to pay you a usage rate when we can more accurately compensate you by paying a flat rate per port.

Q. Let's put aside for a minute whether switching costs are traffic sensitive or non-traffic sensitive and just assume there's a fixed bucket of costs. So is it your position that a CLEC that uses more of those resources should pay exactly the same as a CLEC that uses less as a matter of rate structure?

A. (Mr. Gillan) Yes, because that is the way the costs are incurred.

Q. And so --

A. (Mr. Gillan) All we are doing here is -- first of all, the switch is designed -- the switch is serving a group of customers. The issue when you set the price for unbundled local switching is that before the ILEC was the only carrier in that switch providing service to those customers. Now we're going to have a world where there is more than just the ILEC's, so we have to apportion the cost of that switch across the carriers that are using it, and the most fair way to do it is the way the costs are incurred for -- by the ILEC with the manufacturer, which is on a flat rate basis.

Q. So just so I understand, so assume we have just a fixed bucket of costs and we're trying to figure out the best way, the most reasonable way to allocate those among all the different users, you just disagree that it would make sense for a CLEC using more of that

resource to pay more?

A. (Mr. Gillan) There was no additional cost incurred. To charge them more is to imply that there was a justification to charge them more, and part of our testimony is there is no such justification.

MS. RONIS: I have nothing further.

JUDGE MACE: Dr. Gabel.

CHAIRWOMAN SHOWALTER: Can I just follow, I would like to just follow up on this very point.

E X A M I N A T I O N

BY CHAIRWOMAN SHOWALTER:

Q. My first question is, why is it relevant at all one way or the other what or why the vendor sets a price? From the vendor to Verizon is a unit price, am I right, a switch; is that correct?

A. (Mr. Gillan) It ultimately boils down to a unit price, but the price --

Q. Okay, but is that correct that there's a unit, just a switch costs an absolute dollar amount?

A. (Mr. Chandler) Yes, the switch -- yes.

Q. All right. Now the vendor isn't allocating the cost of the switch from the vendor to Verizon based on lines, minutes, or anything else, is he, it?

A. (Mr. Gillan) Depending on how -- depending on

how the switch is configured, the price that the manufacturer quotes to the ILEC may vary. I think that's a fair statement.

Dick.

A. (Mr. Chandler) Yes, I think it is.

Q. As from Verizon to a customer, whether it be a retail customer or a wholesale customer, isn't the question what is the most appropriate measurement to use for allocating the unit cost that Verizon incurs, which could be minutes or could be lines, maybe there's some other possibilities?

A. (Mr. Gillan) Yes, with the following caveat. I think it's important that whatever measure you use to charge the wholesale customer it have cost characteristics as close as possible to what the actual cash price for that switch is that Verizon incurs. For instance, usage is a bad proxy, is a bad mechanism for among other reasons say from 19 -- I think it's 1990 to about 2000, that ten year period, the usage per line roughly almost tripples. In fact, from the time -- for the usage that's in their cost study to the usage that their ARMIS data shows for 2000, it's gone up from about 2,000 minutes per line to 2,700 minutes per line. If you try to recover that price on usage, you have revenues increase into Verizon even though there's

really no change in their cost structure whatsoever. Conversely, if they collapse, their cost structure doesn't change either, whereas lines are a much more stable base.

Q. All right, but aren't you just saying that when Verizon is trying to make a decision of how many switches it needs or what kind of switches it needs for whatever reason, whether to serve its own customers or CLEC's, that lines are more relevant to that decision than minutes of use; is that what you're saying?

A. (Mr. Gillan) Yes, in very simple terms, yes.

Q. All right. So I guess it seems to me that it's not because Verizon's relationship with the vendor is based on lines, it's not, the vendor just has a price for whatever it is. The issue is how do we take Verizon's cost and allocate it out fairly to both CLEC's and Verizon, and there's where you're arguing that lines are a better measure than minutes; is that correct?

A. (Mr. Gillan) Yes, although I would point -- one of the points that Mr. Chandler made earlier on was that as a practical matter when they sit down to order the switch, they're telling the vendor -- the primary -- the primary variable they're telling the vendor they want them to design around is these are the lines that we're going to expect on the switch. So it's not just

that we think it's a better allocater, it's also the primary design variable.

Q. All right. So then one way to think about this I think is what's the limiting factor when you go to buy a switch? Is the limiting factor how many minutes it's going to serve, or is the limiting factor or largest factor lines, or maybe there's some other things? Are you saying that lines are vastly more important than minutes, so therefore we should only use them?

A. (Mr. Chandler) Yes.

Q. Now what about this idea of allocation where you say, well, when you look at what goes into the pricing, there's an element of usage based limiting factor so we should count it for so much, and then the other proportion is lines, are you saying that's not accurate because the minutes of use if it's relevant at all is so small?

A. (Mr. Gillan) There would be two reasons that I would say you wouldn't use it. First is that to the extent that you are looking at usage, you're not looking at usage generally. There's a particular point in time that the usage is relevant, at the busy hour. Usage in every other hour is completely irrelevant to that design parameter. So even if you were to think about using a

usage construct, it wouldn't be usage generally, it would be busy hour usage, which nobody really has a system in place to accurately bill.

And there is -- it is a misstatement to try and correlate and say, well, since busy hour usage may have some impact, then if I take costs and just spread it over all minutes I have done something correctly. Really all you have done is misprice 23 hours of the day, or actually you have mispriced all 24, you are overpricing 23, you are underpricing 1, and you have really just made a -- you've made a bigger mess than you started with. That said, even then I think the amount of cost influenced by the busy hour is so small it isn't a bogey worth chasing.

Q. Now you do agree though that you have to design the system for peak usage; is that correct?

A. (Mr. Gillan) In essence though everything in the telephone industry has to be designed for peak usage.

Q. Now in the world of electricity, you know, you throw on a plant at peak time, and so you can actually see that peak hours cost more than other hours. And you also have the ability if you want to, although it's more difficult in electricity, to charge more for that time. If, as a theoretical matter, not a practical

matter now, if -- does it make economic sense barring whatever transactional costs are involved to charge customers, whether wholesale or retail, peak hour rates?

A. (Mr. Gillan) No, I wouldn't say so for -- there's a real difference between this and electricity, and you touched on it. In electricity, as the peak hour approaches, more capacity comes on line, right. So there is a cost consequence at that peak on a going forward basis that you're trying to tell consumers about.

In this instance, you design a switch for the peak ahead of time, and so long as -- and as Dick, as Mr. Chandler put in -- explained in the testimony, so long as the usage is always below that design criteria, you're not bumping up against that top at all, and you can't like bring that capacity on line only during the peak period to serve it. What we have instead is a group of customers now being served by different carriers. I mean it's the same group of customers, and whatever their peak load characteristics were, was individually before when they were all served by Verizon, is now still the same characteristic when they're served -- collectively when they're served by these individual companies.

So by each individual CLEC paying for the

peak by -- in proportion to the number of lines it has on the switch, you probably have the best estimate of each CLEC's proportional responsibility for that peak that you could have anyway. So you don't have the same problem in electricity, you don't have the same cost consequences kicking in.

Q. So you would say that a switch is more like a transmission line, it's just there but it had better be able to accommodate peak?

A. (Mr. Gillan) Yes, to put it into the electric metaphor, that would be true.

Q. No, I won't get into that, because we're not in an electricity proceeding, but of course it is highly debatable whether you should have some kind of market pricing of transmission in order to allocate it.

A. (Mr. Gillan) We don't have scarcity here though. I mean if there's one thing that we know is they got enough switching capacity. They're not bumping against the limits, and it's the one place that's real different than electricity. You don't have a scarcity problem that you're trying to send price signals to maybe shift a peak or change people's behavior. That's not the issue here. It's really a question of what should you pay for that fixed piece of investment or what is the best and quite frankly the simplest way to

go about charging for it.

Q. All right. Is a summary of your comments that minutes of use is either indirectly or in a minor way or theoretically relevant to total peak use, but that lines are --

A. (Mr. Gillan) To complete that --

Q. -- vastly more relevant to figuring out a fair way to allocate?

A. (Mr. Gillan) Yes, and on the -- and on the peak point I would say that lines are just as good, if not better, a predictor of what the peak demand would be of any CLEC's individual, you know, group of customers as just minutes of use throughout a month would be. There's no reason to believe that minutes of use throughout a month gives you any better predictive ability as to what the peak responsibility of that group of customers would be versus using lines. And we sure know that lines are both simpler to bill, and they don't carry with them into the retail marketplace the same distortionary effects.

I think Mr. Spinks earlier said that we were asking for this by justifying it by the fact that retail rates are flat rate. We're not asking for that as a justification, but we are pointing out that there's an enormous downstream consequence to CLEC's paying for

these switches on usage when the ILEC doesn't incur that cost in a world where retail customers demand flat rates and are becoming with every passing day with competition more flat rate oriented. Time and distance are really going away in telecommunication rate structures, both retail and they should be going away in wholesale, because the world is just a lot less time and distance sensitive.

Q. In the example say of a CLEC who has a retail customer who is using a line, one line for voice and DSL and say leaving the DSL on all the time and there are lots of minutes of Internet use happening over it. If that is happening with great frequency or --

A. (Mr. Gillan) That actually --

Q. -- in the CLEC world, is it your view that still line is a fair way to allocate the switch?

A. (Mr. Gillan) Yes, because if you think about it from the network, in the example of the DSL line, that Internet traffic is taken off before it gets to the switch. That traffic never goes through the switch. So the DSL example really has no bearing here. What you have are lines that are connected to the switch to provide dial tone to the customer, features, and voice call routing. It's not -- it has nothing to do with customers that get Internet service, and it has

absolutely nothing whatsoever to do with this question about Internet service providers having a lot of reciprocal compensation minutes coming to them, because that's not the customers that you use unbundled local switching to serve.

Q. All right, and if I did the same example but I did not -- if I were not talking about DSL but I was talking about dial up, somebody who uses one line for a lot of dial up, is your answer the same?

A. (Mr. Gillan) Yes, because the reality is that the fraction of customers that are still on dial up, the switches are accommodating that level of traffic, and it seriously penalizes a CLEC from serving a customer who uses dial up because they're paying for each individual minute to go through that switch when Verizon doesn't face that same cost, kind of cost penalty. So CLEC's would be forced to ultimately move away from serving any kind of customer with dial up even though there's really no cost justification for the CLEC not to serve them. The switch can handle it, there's no additional cost consequence to Verizon, Verizon is fairly compensated, the CLEC is paying a fair rate. If the customer wants to use dial up in that situation, their decision to use a CLEC versus Verizon shouldn't be impacted.

CHAIRWOMAN SHOWALTER: Thanks.

JUDGE MACE: Dr. Gabel.

E X A M I N A T I O N

BY DR. GABEL:

Q. Mr. Gillan, I would like to begin by just asking you to confirm, you were in the room today when there was a discussion about long run costing methodology; is that correct?

A. (Mr. Gillan) Yes.

Q. All right. And do I understand your response to the questions from the Chair is that, well, the capacity is in place, and therefore when there is additional usage by a telecommunications company, there's no additional cost incurred; was that your testimony?

A. (Mr. Gillan) That would be part of it, but maybe jumping ahead to your question, even in the long run if you were expecting additional usage in the future, the consequence would be perhaps a, most likely, a higher per line cost from the manufacturer, and so the long run pricing principle would be satisfied by reflecting today the higher per line price. It wouldn't say you go and change the rate structure. Just say if there is a long run cost consequence in the form that would be achieved, you reflect it in the price today.

As a practical matter, we don't live in that world, because there is -- I think there is substantial capacity in existing switches, people are moving away from voice networks onto data networks, and the price we're establishing here is for a very important element in a world where people buy POTS service, but it is a decaying part of the market. I mean it's still whatever, 90% today and it will be 80% next year and it's going to take a long time for the POTS marketplace to not be commercially significant, but it's not a situation where we're going to see growing demand over any foreseeable window here.

Q. As a matter of methodology, putting aside the mechanics, as a matter of methodology, when the Commission sets rates to reflect long run costs, should the methodology be assuming that certain things already exist and then base pricing decisions based upon what already exists, or should the methodology be, well, we have a clean slate, now let's identify the drivers that result in costs that would be incurred by a firm that starts with a clean slate?

A. (Mr. Gillan) It's the latter, but in that world it would still be a flat rate price per line. Just it would affect the level of that price per line.

Q. All right, then let's turn to that topic. Is

it your representation that what Verizon pays is, to its switch vendors, a rate per line; is that the nature of the contract, or is the nature of the contract dependent upon what equipment is needed on the switching machine?

A. (Mr. Gillan) I have not directly looked at the Verizon contracts in this state. Every other contract I have looked at is predominantly per line, and then there would be some additional charges for like a trunk port or some other equipment, but the driver is the per line price. At no time, at no time is there a usage charge.

Q. We had in this case marked as Exhibit 303 and 304 Verizon's response to AT&T Request 6.143. This is where Verizon provided its support for how it calculated the discount it receives relative to the retail price for equipment on a switching machine. Did you review that data response?

A. (Mr. Gillan) Not with so much specificity that I can remember whether that was the number. We looked at a number of data responses, and Mr. Chandler looked at some as well independently.

Yes, we looked at this at least in summary fashion.

Q. And is there anything in that response to indicate that Verizon's payment is either on a per port

basis or alternatively there's a different price for each piece of equipment on a switching machine that it acquires from its vendors? And it may -- if you look at the cover response and the preceding page too.

A. (Mr. Gillan) This would appear to be the price list of a variety of different pieces of equipment.

Q. Would that suggest to you that Verizon's contract is not on a per line basis?

A. (Mr. Gillan) No, not necessarily. I would have -- my comment was that when you looked at the total cost, what was the driver, it was predominantly per line, not that there weren't other things that they got charged independently for. But again, nowhere do you see anything that's an ongoing recurring usage type cost structure.

Q. When you say predominantly, what does -- does predominantly mean that it's the plurality and that it's 20%, does it mean that it's 70%? And if it is the latter -- well, I will just stop there.

A. (Mr. Gillan) I'm basing this after -- basing this on the review of other contracts, not this invoice. What this appears to be I guess is an invoice list more than anything else. And other than conveying to you that it's predominantly -- and I'm using that term

because it was a term picked up by the Illinois Commission, which was the first commission to issue a flat -- to order flat rate pricing. I don't know how much more detail I can go into without violating the terms of the proprietary agreement in Illinois that allowed me to review the contracts, so I'm trying to use the terms that they disclosed publicly.

A. (Mr. Chandler) the documents I reviewed in the document production on switching that we got from Verizon in this docket typically showed that Lucent, for example, would say, we will sell you these 5ESS switches for these -- for the following wire centers to serve the listed number of lines at a price. There's no mention of usage whatsoever.

Q. But when that, in your example when Lucent states that it's going to sell a switch for a certain amount of money, that could be a sum of the components that appear on this sheet, couldn't it, and it would not necessarily suggest that Verizon's contract is on a per line basis?

Or let me just be more specific. Is there any evidence that you can cite that Verizon Washington is buying switches on a per line basis as opposed to a per piece of equipment basis as opposed to, for example, paying $50,000 for a digital trunk controller and $40

for a line card?

A. (Mr. Gillan) No, the only unequivocal statement I can make is that they never pay for it on a usage basis.

Q. All right, now that was just to make sure that I understand.

Moving on to another area, in Exhibit 801TC, this is your testimony of June 26, at page 18 to 25, you have an extensive testimony of Qwest and Qwest representations. Was this evidence regarding Qwest introduced because of your anticipation that Qwest would be part of this proceeding? I'm just curious why you're referring to Qwest here.

A. (Mr. Gillan) Because of this testimony was filed last year, and my understanding was last year this case involved both Qwest and Verizon.

JUDGE MACE: I believe the issues regarding Qwest were not removed until sometime in late 2003.

Q. And then finally I would like to turn to the cross exhibits that were I guess first Cross Exhibit 10-43.

JUDGE MACE: I don't think that Ms. Ronis referred to them at all, and it's not clear to me you're going to offer them either at this point, but they were marked 804C, and they included several responses to

Verizon data requests, one of them being 10-43.

MS. RONIS: I do intend to offer those exhibits.

JUDGE MACE: All right, do the witnesses have copies of those?

MR. GILLAN: Yes.

MR. CHANDLER: Yes.

DR. GABEL: Actually, let me begin with Cross Exhibit 10-68, I'm sorry.

CHAIRWOMAN SHOWALTER: Page 7.

DR. GABEL: Yes, page 7.

BY DR. GABEL:

Q. At page 7 you're discussing how you determined Verizon's switching cost to be different than you have seen in other jurisdictions, and in response to this request you provide support at Data Request 10-43; is that correct?

A. (Mr. Chandler) I believe that's correct, yes.

Q. Now turning to 10-43 and also having in mind 10-68, when you're making this comparison, are you comparing installed, furnished, and equipped prices with installed, furnished, and equipped prices, or are you comparing -- or what assurance can you provide for the record that you're doing an apples to apples comparison

here?

A. (Mr. Chandler) As I recall, and I don't have all the surrounding pages, in the response to 10-43 that these were installed, furnished, and equipped, subject to check.

A. (Mr. Gillan) As sort of further evidentiary background of that, if you compare the rate that is being proposed principally by Mr. Mercer to the rates established by the other state commissions and the Wireline Competition Bureau, which is in I guess the last round of testimony, you see that they fall in a pretty narrow range to begin with, and the rate that we're proposing falls I think exactly at the mid point of that range. Although, you know, that wasn't how it was calculated, it was just I went back and compared it to these other rates for additional validation.

Q. Okay.

Lastly at page 8 you refer to Exhibit 10-69, and here you refer to Teresa Million's showing actual Qwest switching purchases for Arizona at, and this is not confidential apparently, $55 per line. Do you know if Ms. Million then included additional investments for software purchases?

A. (Mr. Chandler) Not in the exhibit I saw. I don't know that she -- I don't know that she did or

didn't.

Q. Do you know when you're drawing a comparison between the Verizon number that you referred to at 10.68 and the numbers that you represent for these other states, do those other state numbers include all of the software that would be included in the number produced by the Verizon model such as a software right to use fee?

A. (Mr. Gillan) The rates in the other states were the lock, stock, and barrel price, so they would have included all the right to use fees and all the other costs associated with local switching. Now that isn't to say that the ILEC would agree with that statement, but it's the finding of those state commissions and the Wireline Competition Bureau, and I don't actually believe that the rate level was really that big a dispute in those states.

Q. Okay. And, Mr. Gillan, your representation applies equally to Arizona?

A. (Mr. Gillan) No, only to the rates adopted by the state commissions.

DR. GABEL: All right, thank you.

E X A M I N A T I O N

BY CHAIRWOMAN SHOWALTER:

Q. That was going to be my follow-up question. You named five states plus the Wireline Competition Bureau, and the five states are Minnesota, Utah, Illinois --

A. (Mr. Gillan) Indiana and Wisconsin.

Q. Right, and are there any states since the Illinois decision that have adopted a per minute structure?

A. (Mr. Gillan) Yes, yes, only knowing states I was directly involved in would have been Texas and Ohio and Arizona.

Q. Where the Commissions did adopt some kind of price at least based on part on minutes of use?

A. (Mr. Gillan) Yes.

Q. Okay.

A. (Mr. Gillan) And let me make -- these are the states that I'm aware were confronted with a choice of having a flat rate versus including a usage rate. And, you know, like everything else you never bat 1,000. There were five state commissions that adopted it plus the Wireline Competition Bureau. You would be the first state to I think address this issue since the Virginia arbitration decision came out, because one of the

arguments that had historically been made in the state proceedings was that the FCC rules don't allow it, and that argument of course can no longer be valid given the Wireline Competition Bureau adopting a $5 rate structure.

Q. But only at the Wireline Competition Bureau level, not the FCC level; is that issue on appeal to the whole FCC?

A. (Mr. Gillan) I think so, but to tell you the truth, I don't really know. I -- my understanding is -- my walking around understanding is that that's a settled issue. Now that doesn't mean that there isn't a procedural step open, but there's -- to my knowledge, I have not heard of any real movement in that issue.

CHAIRWOMAN SHOWALTER: Thank you.

JUDGE MACE: Commissioner Hemstad.

COMMISSIONER HEMSTAD: I don't have any other questions.

JUDGE MACE: Commissioner Oshie.

COMMISSIONER OSHIE: And I don't have any questions of the panel, thank you.

JUDGE MACE: Ms. Ronis.

MS. RONIS: No more questions.

JUDGE MACE: Mr. Kopta.

MR. KOPTA: I have no redirect, thank you.

JUDGE MACE: And does Verizon offer that Cross Exhibit 804C?

MS. RONIS: Yes, we would like to move that into evidence.

JUDGE MACE: Is there any objection to the admission of that exhibit?

MR. KOPTA: No objection.

JUDGE MACE: Thank you, gentlemen, you're excused.

(Recess taken.)

(Witness STEVEN E. TURNER was sworn.)

JUDGE MACE: All right, please be seated.

Before we actually begin with the witness, I think we have two new attorneys on board who have to introduce themselves at this point in time. If you would begin, please, Mr. Richardson.

MR. RICHARDSON: Bill Richardson from Wilmer Cutler Pickering Hale & Dorr, LLP.

MS. STEELE: And Mary Steele, Davis, Wright, Tremaine, representing AT&T in this proceeding.

JUDGE MACE: Thank you.

Are you ready to present Mr. Turner?

MS. STEELE: I am, Your Honor, yes.

JUDGE MACE: Go ahead.

Whereupon,

STEVEN E. TURNER,

having been first duly sworn, was called as a witness herein and was examined and testified as follows:

D I R E C T E X A M I N A T I O N

BY MS. STEELE:

Q. Mr. Turner, will you state your full name and your business address for the record, please.

A. Steven E. Turner, and my business address is Kaleo, which is K-A-L-E-O, Consulting.

JUDGE MACE: I think you need to put your microphone on. It's on when the button is raised. There you are.

THE WITNESS: Thank you.

JUDGE MACE: And speak right into it.

A. And my address is 2031 Gold Leaf Parkway, Canton, Georgia 30114.

BY MS. STEELE:

Q. And on whose behalf are you presenting testimony here today?

A. I'm testifying on behalf of AT&T Communications of the Pacific Northwest, Inc.

Q. Do you have in front of you Exhibit 751, which is your rebuttal testimony, as well as Exhibits

752, 753, 754, 755, 756, and 757, which are exhibits to that testimony?

A. Yes, I do.

Q. And was this testimony prepared by you or under your direction?

A. Yes, it was.

Q. Do you have any corrections to make to the testimony?

A. Just one on page 30, line 1, the number 1.1144 should be changed to 1.1695.

JUDGE MACE: I need to have you repeat that, if you would.

THE WITNESS: The number on line 1, page 30, should be changed from 1.1144 to 1.1695.

JUDGE MACE: Thank you.

BY MS. STEELE:

Q. And if you were asked the questions that are in your testimony today, would your answers be the same?

A. Yes, they would.

MS. STEELE: I would like to move for the admission of Exhibits 751 through 757.

MR. RICHARDSON: No objection.

JUDGE MACE: I'm sorry?

MS. STEELE: I just moved for the admission of Exhibits 751 through 757.

JUDGE MACE: Any objection to the admission of those proposed exhibits?

MR. RICHARDSON: No objection.

JUDGE MACE: I want to indicate for the record that 751, 753, 754, 755, and 756 have a designation C indicating they're confidential. I'm assuming that that comports with your designation.

MS. STEELE: Yes, it does.

JUDGE MACE: I will admit those exhibits.

BY MS. STEELE:

Q. Mr. Turner, do you have a brief summary of your testimony to give?

A. Yes, I do.

JUDGE MACE: Mr. Turner, I will give you a 30 second warning if you get to that point.

THE WITNESS: Thank you.

A. Good afternoon. The testimony I provided addresses the specific issues that I found related to the VzCost and VzLoop cost models. The focus of my attention, as my testimony spells out though, is related to the VzLoop model, which produces the investments for the loops in Verizon's cost filing that they have made here. With respect to VzLoop, I found three main problems that I address.

First was related to the material and

placement costs that Verizon used. These are inputs into their model. I do not change all of these values. What I tried to do is to line up the values that were in Verizon's filing side by side with those that are being sponsored by Mr. Dean Fassett, who is the witness for HM 5.3, the inputs in this proceeding. And then based on looking at places where there were significant deviations, I used the inputs that were being sponsored by Mr. Fassett. But I did not make changes every place, instead just focusing on areas where there were significant differences.

Secondly, there were a series of what I characterized as network modeling and input related, or not input, but modeling related issues. And just to briefly go through those, one was that Verizon's model as it's constructed relies on its embedded network configuration, which we find cause it to produce inefficient and therefore overstated costs in certain instances. Secondly is that as I described in my testimony, there are a series of locations in their network where Verizon even acknowledges that they have erroneously placed SAI's, and as a result of that it leads again to overstated cost.

Third is what I have described as overlapping and inefficient distribution areas. I had a diagram

where I kind of talked through this issue, but it's a situation where if Verizon had chosen to, they would have identified more efficient boundaries for their distribution areas in certain instances.

Fourth is that Verizon erroneously places DLC where it's clearly not necessary. I have had the opportunity to continue investigating that, and we found that there's actually coding errors in the model that contribute to that problem, caused a significant placement of DLC that's unnecessary.

And then finally I address key engineering inputs, this is different from the material and placement inputs, and have provided for the Commission's review alternative values such as for distributional cable sizing of the fiber copper cutoff point of 18,000 feet.

JUDGE MACE: I'm sorry, Mr. Turner, your time is up.

THE WITNESS: Okay, thank you.

MS. STEELE: Mr. Turner is available for cross-examination.

JUDGE MACE: Mr. Richardson.

C R O S S - E X A M I N A T I O N

BY MR. RICHARDSON:

Q. Good afternoon, Mr. Turner.

A. Good afternoon.

Q. I would like to begin by focusing on something that I don't think you included in your summary, and that's the early part of your testimony where you're describing --

JUDGE MACE: Is your microphone on, Mr. Richardson?

MR. RICHARDSON: I believe it is.

JUDGE MACE: You need to speak right into it, and could you project a little bit, please.

MR. RICHARDSON: Certainly.

JUDGE MACE: Thank you.

BY MR. RICHARDSON:

Q. Mr. Turner, I would like to begin with the portion of your testimony where you describe VzCost, VzLoop, and some claims you make about the complexity of those. First of all, I would like to in this discussion clarify that I will be talking about VzCost sometimes and VzLoop sometimes, can you just describe briefly your understanding of the difference between the two?

A. The way that I use those terms is that VzCost is effectively a package, if you will, that brings

together investments from a variety of areas, applies cost factors to those investments, and ultimately converts them then into recurring rates that would be applicable based on the investments and factors applied to them for a variety of elements.

VzLoop is one of what Verizon refers to as an element calculator that develops the underlying investments that would go into VzCost. And as part of that, it makes network modeling decisions and applies placement and material cost and engineering factors in coming up with those determinations. In some pieces of documentation, Verizon includes VzLoop as being a part of VzCost. I have tried to be clear in my testimony to distinguish between the two, not that you may not wrap them up in some way, but they seem to be in my opinion clear and distinct parts of the modeling environment that Verizon's using.

Q. And I would like to ask you have you ever previously developed or reviewed any UNE cost models where your role involved the loop costs?

A. You said developed or reviewed?

Q. Yes.

A. Yes, I have done so.

Q. And which ones were those?

A. I provided in response to discovery to

Verizon a whole series of models that I worked on, but specifically related to loops it would be the LoopCAT, generally spelled L lower case O-O-P and then capital C, capital A, capital T, the LoopCAT cost model. It's a model used by SBC to develop loop cost for a variety of loop types, and I have provided testimony and restatements of that model in several proceedings in Texas as well as proceedings in California, Illinois, Michigan, Indiana, Ohio, and I'm currently working on a filing for Wisconsin.

Q. Mr. Turner, I believe you're referring to your response to a data request provided by Verizon which has been pre-marked as Exhibit 758; is that correct?

A. I didn't know the marking, but it's the response to Request Number 10-1.

Q. And in that response you provided a chart listing all of your experience for ten years in various cost models, correct?

A. That's correct. I believe it extends beyond that, because the question didn't specify a time period, but it provided the modeling experience that I have had.

Q. And LoopCAT is addressed at the bottom of the second page of that chart, correct?

A. Yes, it goes from the bottom of the second

page and extends I believe up to the top of the third page.

Q. So is it correct to say that of all these models you have had experience developing or reviewing, the only one in which your role extending to loop costs was the LoopCAT model?

A. No, that's not correct.

Q. Maybe I misunderstood your statement before, which other ones?

A. In terms of modeling related to loops and specific to this response, it would also include for instance the DS0 or DS1 building entrance tool. This was doing evaluations of the costs associated with deploying loops into large buildings and the placement of equipment to provide DS1 loops in those buildings. It's not in the sense of a TELRIC cost model, but if your question is more general to other areas where I have done work with loop related costs, I would extend it there as well. If it's specific to UNE proceedings, then it would be LoopCAT where I have worked in all the states that I identified for you earlier.

Q. And your experience with the DS1 building entrance tool, was that confined to the high capacity loops?

A. Yes, it was DS1 and above loops.

Q. So were there any other of these models where you developed or reviewed the model and your role extended to loop costs other than UNE cases?

A. Yes, on page 3 of this document, the next to last line, the AT&T impairment analysis model, a portion of that model was similarly evaluating the cost to provide high capacity loops into customer locations, and I provided development input into the cost calculations for that model.

Q. So that was again also limited to high capacity loops?

A. That would have been in that particular case DS1 and above loops.

Q. And for what purpose were you providing that analysis?

A. In that particular case it was related to the impairment proceedings, and part of the impairment proceedings had to do with the continued availability of DS1 loops and evaluating on a potential deployment basis whether or not DS1 loops could be served by CLEC's on their own and what that cost would be.

Q. So did it involve identification of the cost of providing the service?

A. Yes, it did.

Q. And was that filed in any proceeding?

A. I do not know.

Q. Now focusing again on LoopCAT, your chart identifies in the last column the model language, and that as I understand it was -- well, can you tell me what model language that was written in?

A. LoopCAT?

Q. Yes.

A. I guess if you're very precise, what I tried to include here was both the model and/or the language that would be used, but they, LoopCAT and SBC's modeling environment, relies on Excel, Access, and then some Visual Basic code.

Q. Now you say Visual Basic others at the top of page 3.

A. There's a preprocessing section of LoopCAT that I wasn't sure of the code that it's written in, so I put others because I couldn't specify what it was.

Q. Now have any of these cost models that you have identified here been written in Pascal?

A. Well, to the extent that I have identified a model language, there is none identified as Pascal. There is some here that are identified as unknown, and I can't answer the question as to whether they were written in Pascal or not.

Q. Why wouldn't you know whether they were or

weren't written in Pascal if you developed or reviewed them?

A. My review of the models may not -- in some of these cases did not extend to reviewing of actual code. It would have been reviewing algorithms, verifying the methodology for calculating costs in doing that, replicating the calculations outside the model to see if it complied with the algorithms that were described, and so in some cases I was not required to actually review code.

Q. Were there other members of your team who had that responsibility?

A. It would vary depending on the particular -- the particular project.

Q. Well, in any of these projects, was there somebody else on your team that had the responsibility for reviewing the code?

A. The only ones that have unknown related to them are Costprod, SCIS, and CCSCIS. I'm fairly confident for Costprod the answer would be there was nobody else that was responsible for that. I did all the validation for those algorithms outside the model without reviewing the code. For SCIS, the team that we had included one of the primary developers for SCIS, and so I wasn't responsible for reviewing the code. The

person on our team that had that firsthand experience, I'm not sure if she did or not, but she would have been more centrally involved in that than I would. As for CCSCIS, the nature of the review there did not require review of the code.

Q. Now addressing VzLoop, VzLoop is written in Pascal; is that correct?

A. That's correct.

Q. Have you ever reviewed the code for VzLoop?

A. Yes, I have.

Q. When did you first do that?

A. I started reviewing the code probably as far back as the fall of 2003.

Q. Was that in connection with this proceeding?

A. Yes, it was.

Q. So you had available to you the code for VzLoop in this proceeding in the fall of 2003?

A. I think we did whenever we got it, and that's what I recall sitting here right now, that's when I started reviewing it. I mean version 7 of the code, which is what I have spent most of my time with we did not receive until you filed a, you meaning Verizon, filed a supplemental filing. So version 7, which is what I have spent most of my time with, would have been whatever date you ultimately filed your revised filing.

Q. Now version --
A. But I thought there was a version 6 code that you provided, but that's per my recollection.
Q. Okay. Would you agree subject to check that in Verizon's June 2003 filing there was included a commented version of the source code for version 6?
A. I mean subject to check. I don't have any reason to question that.
Q. Now do you recall a motion to strike the VzCost model that was filed by AT&T in September of 2003?
A. Generally I do.
Q. And you and Mr. Cook co-authored a declaration in support of that motion, did you not?
A. That's correct.
Q. And did you state in that declaration that you had not been provided the source code for VzLoop?
A. I think the context of -- well, I don't have the declaration in front of me. If you want to present it to me, I can confirm --
JUDGE MACE: If you have the declaration, you should show it to him at this point so he can review it.
A. And where specifically were you making the reference to?
Q. I'm referring to Paragraph 6, and I will just

read it, and I will give it back to you.

A. Okay.

Q. (Reading.)

The design of the model also makes changing it extremely difficult.

Verizon has not provided the source code for the model making it impossible to determine whether the logic inside the model matches the documentation provided by Verizon.

A. That helps to clarify the context. What Verizon had provided was annotated source code, and it was not the source code that was the underlying code that was in the model. Annotated source code, what I mean by that is it was snippets of code interlaced with comments about how particular portions of the code worked, so there was no ability -- first of all, we didn't even have the complete code, but there was also even if we had no ability to compile that code and confirm in fact that it matched what the documentation in the annotated code that we received. That was the context of the position we were outlining here. Because the context was is we were anticipating that we would need to make changes to the code.

Q. So then it would have been more accurate to

say you have received some but not all of the VZ source, VzLoop source code?

A. No, at that time we had not received the source code. We had what is called, I described it already, it's called annotated source code, but it was not a complete set of source code.

Q. Now do you recall when you received version 7 source code for VzLoop?

A. Yes, we did receive source code with that.

Q. And was that with the filing in January?

A. Subject to check. It was with your supplemental filing.

Q. Now you have been retained by AT&T in the now pending California case involving Verizon's UNE rates; is that correct?

A. That's correct.

Q. And in that case Verizon is also now using version 7 of VzLoop, correct?

A. That's correct.

Q. And in that case did AT&T recently ask Verizon to make a change in the VzLoop code?

A. Yes, we wrote a letter to Verizon outlining a coding error that we found, asked that Verizon either allow us to make the change ourself or to -- and provide us the environment to be able to do that or

alternatively to give us a date by which Verizon would make the correction.

Q. And correct me if I'm wrong, but that involved the way in which VzLoop calculates the so-called economic crossover in which is cheaper, to place copper or to place fiber fed DLC's.

A. That's correct.

Q. And the error, is this correct, was that in certain circumstances that comparison led to a negative value?

A. That's correct, and in the denominator of the calculation you could in certain circumstances have a negative result, which then when compared to a footage would always then place DLC. And so we identified that as a problem and then provided an alternative correction for it.

Q. And you say we identified that as a problem, who identified that problem?

A. The letter that you received, I wrote that letter for AT&T with the exception of probably the opening and closing. The people who did the analysis of the model to find that error was myself working in conjunction with Brian Pitkin.

Q. And he is also an expert in the California case for AT&T; is that correct?

A. Yes, he is.

Q. And who among your group first identified this error?

A. Mr. Pitkin and I did. What we were doing was basically taking the calculations in the model and reproducing them in Excel and tried to reconstitute the total DLC investment in a wire center. And once we were able to do that, we determined that the reason we were getting these DLC's that were so close to the wire center was that, in particular related to underground cable, the denominator of the crossover calculation was negative, but Mr. Pitkin and I found that together.

Q. And when you say you were working together, was one of you primarily responsible for this in the sense of spending the most time on it?

A. I probably was primarily responsible. I had spent a great deal of time replicating the DLC investments in preparation of my testimony here in Washington, and so I already knew virtually all of the calculations that had to be made to replicate Verizon's calculations out of version 7. The one piece that we principally worked on was actually the allocation between business and residential. Once a DLC investment calculation is made, there is an allocation that is then done. But I would say if you had to pick one or the

other of us, I would say it was probably primarily me.

Q. Has Mr. Pitkin had experience in Pascal?

A. I don't know his specific experience. I have had direct training in Pascal and relied on that in my code review, as I provided in discovery to Verizon.

Q. Has, to your knowledge, has Mr. Pitkin developed or reviewed any models written in Pascal?

A. Other than the representation made in Verizon's testimony that Mr. Pitkin has, I have not been told that by Mr. Pitkin.

Q. Did you participate for AT&T in the Verizon Virginia UNE case before the Wireline Competition Bureau?

A. Yes, I did.

Q. Was your role with respect to the interoffice transport portion of the case?

A. Yes, it was.

Q. Did Mr. Pitkin have responsibility for the loop portion of the case?

A. There was a very large team that worked on the loop portion. I believe Mr. Pitkin was a part of that team.

Q. And he sponsored the modified synthesis model on behalf of AT&T, did he not?

A. I do not know.

Q. You're not aware of whether he sponsored the loop model in the case you were responsible for the transport portion of?

A. No, I don't recall specifically who was. My recollection actually was that there was a team of people. Mike Baranowski may have been a part of that team as well as other people, but I don't recall specifically Mr. Pitkin's role sitting here right now versus somebody else's role.

Q. Do you know whether the modified synthesis model was written in Pascal?

A. Only the representations that have been made in Verizon's testimony that it is, but I did not have firsthand knowledge that it was or was not. I have never been asked to review that model.

Q. Now coming back to the California proceeding, did Verizon make a change in the code of VzLoop version 7 in response to AT&T's letter?

A. Yes, after a bit of back and forth Verizon did ultimately agree to make the change. I believe it's now referred to as version 7a of the model.

Q. Now I would like to direct your attention to page 20, I'm sorry, what was page 22 before the -- I'm sorry, it should be just a second. I have the interlineated version, so I need to check my page

numbers, I'm sorry.

Mr. Turner, if you would look at really the last Q&A in your testimony, it's page 22 of the interlineated version, but the last question before section 3:

What is your recommendation for this Commission with regard to the usefulness of VzCost in a TELRIC proceeding?

JUDGE MACE: Page 22 in our version I believe.

Q. Do you have that question and answer before you?

A. Yes, I do.

Q. Now the next to the last sentence of that paragraph states:

It is impossible, however, to understand or change the loop model that is the heart of the cost model itself.

Now you're referring to VzLoop there, are you not?

A. Yes, I am.

Q. But in the California instance that we have identified, AT&T did understand how the VzLoop code handled economic crossover, did it not?

A. Yes.

Q. And Verizon changed it for AT&T, did it not?
A. It did. That was, of course, after, and I have quoted extensively from Verizon's positions outlined at the California workshop, but that agreement to change the model was after the time that I filed this testimony. And it was with a considerable amount of back and forth between Verizon and the joint CLEC's in California before Verizon would agree to do it. The fundamental nature of the model is that it's -- it is I would now say virtually impossible, but Verizon will make the change if you go to them and ask and cajole and work with them, they -- you will make the change.
Q. Well, I believe that AT&T has designated those letters as cross exhibits for the panel tomorrow, and I'm sure we'll go into that tomorrow.
Have you ever sponsored a cost model in which you were requested to make a code change?
A. Yes.
Q. Where was that?
A. California.
Q. And what model was that?
A. It was the AT&T/MCI collocation cost model.
Q. And did AT&T agree to make those changes?
A. Yes, they did.
Q. Who asked them to make the changes?

A. In that particular case it was the California Public Utilities Commission.

Q. Did any of the parties in the proceeding prior to that time ask AT&T to make changes to the model?

A. I can't recall.

Q. Did you make any changes at the request of any party in that proceeding?

A. I'm assuming by party you mean other than the California Public Utilities Commission.

Q. Correct.

A. Not to my knowledge. I mean there were filings made using that model by Verizon and by SBC that both made changes to the model. The nature of those changes were what I would characterize as fairly straightforward, investment calculation modifications that anyone familiar with Excel would be able to handle fairly easily.

The change that was asked for by the Commission was the ability to easily toggle between setting collocation charges as a recurring charge or nonrecurring charge, and the nature of that required a more comprehensive change throughout the model, and so the Commission asked for us to do that before the next round of proceedings took place in California so that

the parties would be able to easily represent what their positions were as to whether something should be recurring or nonrecurring.

Q. But you don't recall any party in the proceeding during the pendency of the proceeding asking you to change anything in the code of that collocation model?

A. My recollection is that proceeding was approximately five years ago, and so it's possible someone asked. But to my knowledge, I don't recall a request coming from a party for changes to be made to the model.

Q. If a party had asked you or would ask you now as a proponent of a cost model to make a change in the code, what would your position be in terms of the considerations that would go through your mind?

A. Well, the circumstances would depend on what kind of change in the sense that if it was an active proceeding and our model, as it was in California, was the model that was being used by the parties, we felt we had an obligation in that particular situation to make changes to the model so that Verizon and SBC and the Commission Staff would be able to make the changes that they would want to have made.

If it was a proceeding where for instance

what I'm involved in right now in Michigan where you basically have two competing models, of course no one there is asked to make a change because you have two competing models.

Or if it was a situation where you needed to change something that was very simplistic such as the types of changes that Verizon and SBC were wanting to make, they would likely be able do themselves because the AT&T collocation cost model was an open and transparent model and easily modifiable because it was written in Excel. It's a very different environment than when you're dealing with a compiled version of a program such as VzLoop that has to run on a server which we have no upload system or programming code upload capability allowed to us. So it's a totally different environment.

But again, in the case in California when it was our model that was being used by all the parties, we made changes that we were asked to make.

Q. Asked by the commission to make?

A. To my knowledge we were asked to make no other changes. There were changes made by SBC and Verizon as I recall to add new rate elements to the models, but because of the nature of the model that we developed, it was quite straightforward for SBC and

Verizon to do that themselves, they did not need us to do that for them.

Q. So did you -- were you provided a -- was there a request to you by those parties to add those elements to the model?

A. I mean again that's approximately five years ago, and sitting here right now I don't recall a request of that nature that was directed to us.

Q. Now did I understand your testimony a minute ago to say that one of the considerations that you would factor in to whether to make a change in a proceeding at the request of a party as opposed to the commission was whether there were competing models being entertained in the proceeding?

A. Yes.

Q. And what did you mean by that?

A. The example I gave for Michigan where in this particular case SBC has filed its collocation model, AT&T has filed its collocation model. At this point neither side is trying to do a restatement of the other side's model, and so the whole issue of making changes to the model hasn't even come up. In this particular situation here, AT&T wanted to be able to make modifications to VzLoop so that it could file something that it felt would be more in compliance with TELRIC.

Q. You're talking about the California case?
A. In California as well as here in Washington. And so you have a different situation, there's competing models, but in Michigan neither side is trying to restate the other's. Here at least in the case of AT&T they're actually wanting to do an affirmative restatement of Verizon's model as well as file their own.
Q. But not in Washington?
A. No, in Washington we did, we filed a restated VzCost filing here with my testimony.
Q. I wanted to ask you a few questions about your references to Delphi in your testimony. Directing you to page 12 of your testimony, there's a question that states:

> Please provide an overview of the Verizon development environment for the VzCost, VzLoop, and related modules.
> Do you see that?

JUDGE MACE: We don't have that on our page 12, I think it's on our page 11.
MR. RICHARDSON: Thank you.
BY MR. RICHARDSON:
Q. Do you see that, Mr. Turner?
A. I do see that, yes.

Q. Now you state:

VzCost and VzLoop in particular were developed by Verizon in Delphi.

And you go on. Now VzCost is not developed in Delphi, is it?

A. My recollection was from some documentation that I reviewed that it indicated that, but I know at the workshop yesterday Verizon indicated that it's developed in the dot net environment and does not use Delphi or Pascal.

Q. And you refer in your testimony to VzLoop as a black box; do you recall that term?

A. Yes.

Q. You're speaking again of VzLoop here, you're not taking the position that VzCost is a black box, are you?

A. As far as my testimony is here, no, I was not taking that position.

Q. Now can you explain the relationship of Delphi to Pascal?

A. Pascal is the programming language, and Delphi is a programming environment, and normally what you have whenever you purchase a programming language such as Pascal or C++, you get with it if you purchase it from a company like Delphi tools that allow you to

debug the code that you have written to --

Q. Can you explain what that term means, debug?

A. Yeah, debug would be a situation where you may have a coding error, and so when you compile your program, it will create a compile error. And normally when you purchase Pascal in a Delphi environment, it will give you tools to be able to find out where those coding errors are at and in some cases even give you assistance in correcting them.

You also have what I would characterize as a trap and trace capability so that you can identify run time errors. So, for instance, what you could do there is actually insert locations into the code where when you reach that point in the code, the code will take a break, if you will. It will stop processing and allow the developer to step through the code and observe variables that are being operated on in that section of the code in such a way as to see how the logic is actually working. It allows you to make sure that you're operating on the data that you anticipate and that you're doing to the data what you would anticipate.

It's the same sort of function that you would typically do in Excel where you do trace precedents or trace dependents in Excel. It allows you to see what data are you depending on, and how are you manipulating

that data. In Excel you're able to see that through the formulas that are in the particular cell that is operating against the code. This capability if it was available, and it is available in a Delphi environment, would allow one to be able to step through and see more precisely how the logic within the model is operating.

I mean those are examples, but it's an overall environment that allows one to be able to utilize or develop code, test that code, ultimately compile and confirm that it's operating in a run time environment like one would anticipate.

Q. Now if I understand you right, you did not need that tool to identify the negative crossover issue that we have addressed earlier, did you?

A. A tool would have been helpful, but no, we did not ultimately need that tool to identify that error.

Q. And AT&T did not provide that tool in connection with its modified synthesis model to Verizon in the Virginia case when it was using a Pascal language, did it?

A. I have no idea.

Q. Would you accept that subject to check?

A. Where would I check that at?

Q. Well, you could ask Mr. Pitkin.

MS. STEELE: I'm --

A. I mean it's so far afield of what I have any experience or knowledge of, I don't even know where I could check that. You wanted me to confirm that something wasn't done I suppose, but.

Q. Well, I think it's set forth in Mr. Pitkin's testimony in the case, we would be happy to provide that.

JUDGE MACE: Mr. Pitkin hasn't filed any testimony in this case.

MR. RICHARDSON: No, he has not, but I guess I would like to ask AT&T to confirm that it did not provide a compiled version of the Pascal source code when offering the modified synthesis model to the Wireline Competition Bureau.

MS. STEELE: And I'm going to object that this is far beyond the relevance of what we're doing here. What AT&T may have happened to have done in Virginia, we don't know whether there was a request to do that, we don't know what the circumstances were. It does not seem to me to be appropriate to ask for that as subject to check in this proceeding.

CHAIRWOMAN SHOWALTER: Couldn't you have filed this as a cross exhibit, whatever this information is?

MR. RICHARDSON: I could have. I didn't have it at the time. But I do think that it's relevant to Mr. Turner's core argument here that VzLoop should not be considered as a model because it's too difficult to understand.

CHAIRWOMAN SHOWALTER: But aren't you basically trying to impeach his testimony with something that Verizon did or didn't do in another proceeding?

MR. RICHARDSON: That AT&T did or didn't do.

CHAIRWOMAN SHOWALTER: Excuse me, AT&T.

MR. RICHARDSON: That's correct.

(Discussion on the Bench.)

JUDGE MACE: We're going to sustain the objection. This was more appropriately something you could have obtained on cross.

CHAIRWOMAN SHOWALTER: No, filed it as a cross exhibit.

JUDGE MACE: I'm sorry, obtained in discovery and filed as a cross exhibit. And it also does seem fairly far afield from where we are in this case.

I'm also reminded that you signed up for 30 minutes of cross-examination and started at approximately 4:30.

MR. RICHARDSON: I only have about five more minutes I think.

JUDGE MACE: Thank you.

BY MR. RICHARDSON:

Q. Do you have, I take it from your prior testimony that you do not have Delphi, Mr. Turner; is that correct?

A. No, I do not have it.

Q. Do you know whether anybody else at AT&T has it?

A. Well, that's a fairly broad question given there's probably a large number of people at AT&T that are programmers.

Q. Have you ever asked?

A. As to whether or not AT&T has Delphi?

Q. Yes.

A. No, I have not.

Q. Are you aware of any other consultant to AT&T in these cost cases that has Delphi?

A. No, I do not.

Q. Have you asked?

A. We have talked about it collectively as a team and concluded that having or not having Delphi does not address the issue of being able to operate the model outside of the environment that Verizon has designed it in so that we can do these types of traps and trace functions that I have described. Delphi doesn't solve

that problem.

And so there's been an ongoing discussion between AT&T counsel in California and Verizon counsel in California regarding obtaining what we have characterized as access to the native environment for VzLoop and VzCost. To my knowledge, AT&T has still not obtained that from Verizon. We have as a result continued to pursue evaluating the code the way that I have described, which is trying to replicate the functions, calculations if you will of investments outside the model, and then when we find discrepancies, try to identify where those discrepancies are occurring by literally reading through the code line by line to find the problems.

Q. So is the answer to my question that you do not know whether any other consultants for AT&T in these cost cases have Delphi?

A. Based on my conversations with our team -- I know in this case here in Washington we do not. And based on our conversations in California, I do not believe we do. And the reason we have not is because of the explanation I provided previously.

Q. Is Delphi commercially available?

A. Yes, it is.

Q. And what you refer to, the programming

environment that you need to understand or operate or discern what's sticking in the code, how do you know that you wouldn't be able to obtain that programming environment if you acquired Delphi?

A. Generally just based on having people on our team that have done systems development, client server development, and experience in terms of actually doing compiled code development and the necessity to have access to the same set of coding libraries that Verizon may have customized for its own use that it does the compilation with versus what we would be able to buy off the shelf from Delphi.

Q. But do I understand you that no one on your team has Delphi?

A. No, but I have explained why. I can give that --

Q. And that's why you know --

A. -- explanation again --

Q. -- that Delphi --

JUDGE MACE: Now I know it's late in the day, but you need to talk one at a time, try not to talk over each other.

A. I have answered that question already.

BY MR. RICHARDSON:

Q. I am trying to understand how you can know

that Delphi is inadequate to get you where you want to go if nobody on your team has it?

A. Because we on our team between the people on the team have a significant amount of experience in doing systems development, including people on our team that have experience in doing client server development, and so we know that just purchasing that tool does not bridge the gap between the ability for us to replicate what Verizon has on its server that it characterizes as the VzCost and VzLoop tools. So it's not just buying Delphi that solves the problem, and it's the other things that I have indicated, it's the database structures, the Pascal libraries that you would rely on when you do compilation, it's more than just buying Delphi. But we know that we do not have those things, and we have not been able to obtain them, and so just going out and purchasing Delphi we did not feel was a necessary task just to prove a point when we didn't have what based on significant experience on the team we did not have to make the model work in a non-client server environment, meaning hosted on a single computer.

Q. I just have one series of further questions about your statements about the location of SAI's in I believe it was the Bothell wire center in your testimony.

A. Yes.

JUDGE MACE: Do you have a reference to the testimony?

THE WITNESS: It should be approximately around page 34.

MR. RICHARDSON: Thank you.

JUDGE MACE: I see at line 12 unreasonable SAI placement on page 34.

THE WITNESS: And then I make a reference on page 35 to an exhibit SET-4, which is Exhibit 755 in this proceeding, which is a diagram that kind of illustrates part of this problem.

JUDGE MACE: Thank you.

THE WITNESS: I don't know where in the testimony you want me to look, but that's generally where this is discussed.

BY MR. RICHARDSON:

Q. I'm referring to the last Q&A in this section, is there a solution to this problem, right before (b), inefficient and embedded cable routing.

JUDGE MACE: That's on page 37.

Q. Yes, page 37, do you see that?

A. Yes.

Q. Now here, Mr. Turner, you say that you have identified some SAI's that appear to be collocated in

the model, and you state here that you have not yet found a way to correct the systematic errors. Has Verizon identified for you a way to relocate those five SAI's in the network table?

A. Not really. Verizon has, as your testimony explains, provided us a one day workshop and provided us, us meaning mainly it's the CLEC team in California but two of us are also here in Washington, provided us with a set of tools which are supposed to be able to allow us to move network components around and then relink them in the preprocessing of VzLoop. We as of the filing here did not have a way to correct that. That statement is still correct even now. Even though you have given us these tools, we still do not have a solution.

And I also think it's important to note that this is not a problem with five SAI's. Even Verizon's own testimony acknowledges there's several hundred, and I don't remember the exact number and I'm not sure if it's confidential even, but there's several hundred SAI's that have the same problem. So the solution that we're looking for is one that allows us to correct this in a more systematic way.

And then the way that the preprocessing algorithms work, you then have to reestablish linkages

between the moved SAI's and the distribution terminals that they would be connected to. So we have a process that we are investigating for doing that, but as of the date that I filed this, which was April 20th, 2004, we had not yet found a way to do that. And as of today, June 1st, or is today June 2nd now, we are still finding problems with using the tools that Verizon provided to us.

Q. And when was the workshop that you're referring to?

A. It was I believe February.

Q. February 5th?

A. It was somewhere in February.

Q. In that time frame?

A. Yes.

Q. And was the purpose of that to show you how to relocate the coordinates of an SAI in the network table?

A. That was part of the purpose of that workshop.

Q. Did you attempt to do that for these five SAI's prior to the filing of your testimony?

A. No, I did not.

MR. RICHARDSON: I have no further questions.

JUDGE MACE: Thank you.

Dr. Gabel.

E X A M I N A T I O N

BY DR. GABEL:

Q. Mr. Turner, in your opening statement you referred to a coding error you found in modeling DLC digital line carrier calls. And Mr. Richardson asked you about some correspondence between AT&T and Verizon in the California proceeding which also involved as I understand from the questioning DLC calls. Is this the same error in both cases?

A. Yes, it is.

Q. Then could you just describe what was the nature of what you understand to be that error?

A. Yeah, the nature of it is that you may recall from the workshops yesterday that there's a process where you calculate something called ECF values, and you calculate these values for fiber underground, buried, and aerial cable, and then you also calculate them for copper underground, aerial, and buried cable. And then effectively what happens is in the numerator you have the DLC cost, and then in the denominator you have the delta between the fiber cost per foot and the copper cost per foot. The theory is that quotient will provide you a number of feet, and if your distance away from the

wire center is greater than that, then you should place DLC. This is the way their model works, I'm not saying it's perfect, but this is what it does. And if you're less than that distance, then you would not place.

And what we found was there are situations based on what those ECF values are where the denominator will produce a negative value. So in other words, you have a situation where the cost of fiber, the way it typically works, the cost of fiber is greater than the cost of copper, and so if that's the case you will never justify putting in DLC, okay. So what should happen in that situation is that quotient should be set to either a very large number or you should have some logic in the code that protects you. But the way the code was working is it would allow the negative denominator to occur, so you take DLC divided by any negative number, you get a negative number. You compare that to any distance, my example that I provided attached is Exhibit 756, had a DLC location that's like 200 feet from the wire center with a negative number in the denominator, you're going to end up placing DLC because it's less than the crossover value, because it's a negative crossover value.

And then the way the logic of the model works and the reason this was such a substantial problem is

once DLC gets placed on any leg in the route away from the central office, then all subsequent SAI's will be served by fiber through a DLC. There is some aggregation function that takes place, but nonetheless it basically suspends any evaluation of whether or not there should be a DLC placed downstream. So if you make an error very close to the central office, you're going to replicate that error.

So we basically offered to Verizon a way to correct that to ensure that if a negative value occurred that their appropriate determination would be made, which is that you don't place DLC.

Q. Mr. Richardson also asked you about your ability to audit or to review the Pascal code, and you described your interest in doing a trace and trap audit. My question is, you can't -- if you can't run the code on Verizon's main frame or mid sized computers, is it possible to take that code and just import it into a Pascal PC program and then do your trace and trap on a PC?

A. We believe that that would be possible, but we would need for Verizon to provide for us structurally how you would need to set up your databases on a single PC environment. It's not atypical that the company that Verizon likely used to do the development for VzLoop

likely developed it in that type of environment. So we would simply need for them to provide to us whatever structure that they used to do the development in a single PC environment, whatever DLL's, dynamic link libraries that they used, anything that's custom that would insure that the code operates in the same way for us as it would for Verizon.

Once you have that, then you're right, there's standard tools available from Delphi that would allow you to do these trap and trace functions. And so you could, for instance, just say when you get to that crossover calculation, stop and step through and you could actually investigate the values. And as soon as you would see a negative crossover, you would know that something is amiss.

Q. And did AT&T request the DLL's and other material that it would need in order to port the program from a main frame over to a PC?

A. To my knowledge we have, but we haven't asked for it exactly that way, just the vagaries of discovery, if you ask for -- you try to ask for something that's general so you don't end up playing the well, we gave you that but it doesn't still work game. What we call -- characterized it as the native programming environment I believe is the way that we have described

it to Verizon. So in other words, don't just give us the DLL's, give us what it takes to be able to operate this on a stand alone computer environment.

You know, it may end up that they would have to say, well, you're going to have to have specific processing capabilities or specific memory capabilities, go ahead and give us that information so that we can do those types of things on our own so that we're not being constrained by problems associated with the Internet, problems associated with uploading, we would have the flexibility to potentially make program changes ourselves and then, of course, be able to do these audit functions that are typically performed by cost analysts on the model.

Q. My last question, Mr. Turner, is Mr. Richardson also asked you about your testimony where you characterized the Verizon loop model as a black box, I just want to make sure I understand why you're characterizing the model as a black box. Am I correct it's not because it's written in Pascal, but it's because of your inability to do the trace and trap; is that -- or what was it that made --

A. It's just it's the complexity of when you're dealing with a model that both relies on a database structure with multiple tables and compiled Pascal code,

it just makes it very difficult. I don't want to say impossible because we are finding these problems, but it makes it much more difficult than you typically experience in model evaluation to simply trace through how data that comes into the model ends up being used and manipulated, and I don't mean that in a negative connotation, but simply the calculations that occur against that data and then flows back out into a result that would then subsequently have factors applied to it. So it's the -- it's the logic associated with that which is made very complex when you're dealing with compiled code, accessing databases, and you're trying to piece some of this together, which is why in many cases we have simply had to do that by reproducing calculations in Excel.

Q. Well, since you have reviewed the code as well as the data that's manipulated by the program, did this look to you like something that could be done on a PC or, you know, stepping back from it, does it seem sensible to have moved from the PC environment over to a larger computer given the size of the data that needed to be accessed?

A. I think you would have to run this on a larger computer. I don't think it was necessary that Verizon require that it be done using a client server

environment where you're running it effectively through the Internet, because we're -- there's many complexities that that creates as a cost analyst that we're continuing to struggle with because of having to deal with a remote computer that has to host our data before we can even run their programs. And I will grant Verizon that they are eager to provide workarounds to us to help solve those problems, but we wouldn't have those problems if we were dealing with a model that was running on a local computer. But given the amount of data that Verizon is manipulating, and again I don't mean that in a negative connotation, I understand their need to have a larger computer than what you would typically run a model on in terms of if it was an excel based or even an Access based model.

DR. GABEL: Thank you.

E X A M I N A T I O N

BY CHAIRWOMAN SHOWALTER:

Q. Did you determine any measure of the prevalence of this negative quotient condition?

A. We have done some work with that and estimate that approximately 20% of the DLC placements are affected by this problem. Now that has been primarily based on subsequent work that we have done in

California, so I don't have the exact number for you here in Washington, but it would probably be in that same 20% range.

Q. And you testified that you offered a fix for this problem, was the research or the California, excuse me, the post California inquiry that you made based on a fix of that kind, or did you just determine where the negative quotient exists?

A. What we did is we actually offered to Verizon a way to systematically correct the code so that when a negative quotient occurs that you basically set the quotient to a fairly large number so that a crossover determination would not be found. In other words, you wouldn't place DLC. And so we -- Verizon for the most part implemented the approach that we laid out and has given us back a version of the code with that in it.

Q. Do we have that data in our record here?

A. I do not believe that you do. We have it as part of our work in California, and you do not have that version. It would be -- it's referred to by Verizon I believe as version 7a, but I don't believe you have that here in Washington.

Q. So does the data that you have pertain only to California?

A. That's correct.

Q. But the version 7a could be used in Washington?

A. Yes, it could.

JUDGE MACE: How would we go about getting this version 7a in the event that it becomes necessary to make an adjustment along the lines that the witness has described?

MR. RICHARDSON: Verizon could that do that the same way that they did it in California, it would be to essentially allow that to be run so that those negatives wouldn't exist, if I understand it.

JUDGE MACE: So is it simply a matter of access to version 7a, or is it you're providing 7a and accompanying documentation to us?

CHAIRWOMAN SHOWALTER: Or third, I thought I heard you to say you're providing recalculated data based on 7a.

MR. RICHARDSON: We can do that, but we have also provided it in California to AT&T for its use, and it -- we could do that here in Washington.

JUDGE MACE: You mean the version 7a?

MR. RICHARDSON: 7a.

CHAIRWOMAN SHOWALTER: Well, let's ask Dr. Gabel what he would like.

(Discussion on the Bench.)

MR. RICHARDSON: I understand that the way we do it is we could put it up on the Internet so that like 7 it would be available as 7a for the parties to use.

JUDGE MACE: What date would we be talking about that you could have that done?

MR. RICHARDSON: We could contact Verizon tomorrow to see whether that could be done in the next day or two.

JUDGE MACE: Very well, then you would have an answer before we concluded the hearing?

MR. RICHARDSON: Yes, we would.

JUDGE MACE: All right, thank you.

CHAIRWOMAN SHOWALTER: I have no further questions.

COMMISSIONER HEMSTAD: I have no questions.

COMMISSIONER OSHIE: I have no questions for Mr. Turner as well.

JUDGE MACE: Anything else, Mr. Richardson?

MR. RICHARDSON: Just a couple of questions.

C R O S S - E X A M I N A T I O N

BY MR. RICHARDSON:

Q. Mr. Turner, this economic crossover is one of three criteria for placing the initial DLC in the system; is that correct?

A. Yes.

Q. So that if the -- and the first condition is Verizon uses the location of the closest DLC to the central office, correct?

A. I'm not sure I understood that question.

Q. Well, there are several other criteria for placement of DLC's, correct?

A. Yes.

Q. And what is your understanding of the others?

A. This is in your documentation, but as from my memory one of the criterias is if a DLC has already been placed by a Verizon engineer, I can't remember how you characterize that, I know that it's denoted in their database as a capital F whereas a model DLC is characterized as a lower case f, so that would be one. Another is if the first DLC moving away from the central office was necessitated by the copper loop maximum distance, the 12,000 feet that Verizon recommends, the 18,000 feet that I recommend, so if you're going to exceed the 18,000 foot total copper length, then Verizon will place the DLC, or excuse me, 12,000 feet in your inputs, but they will place a DLC because of technical requirements and won't even -- it doesn't even get to the economic crossover issue.

Q. So if, I think you answered my question but

just to clarify, if the first DLC is placed for either of the other two reasons including the 12,000 minimum copper loop length restriction in Verizon's model, and that distance is sooner than the economic crossover, then the economic crossover essentially has no impact; is that correct?

A. That's true, but the nature of this problem is just particularly prevalent close to the central office. And once you -- the way the logic in the model works is once a location moving away from the central office is converted to DLC, the model assumes that all subsequent locations would be in excess of the economic crossover point. And so it's the nature of the problem that it tended to affect DLC placements close to the central office, but because it affected there, it shut off the model's calculation of economic crossover downstream to find out where the real appropriate place would have been to start placing DLC, which is why it's a larger issue than you would initially anticipate, or at least that's what we found with California where we have been able to do some work with this because we have the 7a version there.

MR. RICHARDSON: No further questions.

JUDGE MACE: Redirect?

MS. STEELE: Just a few questions.

R E D I R E C T E X A M I N A T I O N

BY MS. STEELE:

Q. Mr. Turner, you were discussing with Mr. Richardson your attendance at this February 5th seminar that was put on by Verizon, and then you were asked whether after the workshop you attempted to move the SAI's that you have discussed in your testimony, the Bothell SAI's that are all in one location, and you said that you didn't try to do that. Why did you not try to do that?

A. Well, in part at the workshop Verizon repeatedly emphasized how complex this was and the potential for it introducing other types of errors, so they -- I don't want to say they said we couldn't do it, because they were showing us how, we could if we really wanted to, but they certainly discouraged us from doing it.

Secondly is that we felt that the only real solution to this would be to come up with a systematic solution, to not just deal with five but to actually solve the problem systematically throughout Verizon's network where it has these, for lack of a better word, engineering discrepancies where the engineering system shows SAI's being placed on top of one another when in

fact even Verizon will acknowledge that does not occur. So we wanted a systematic way to solve that, not just fixing it in those five. I gave that as an illustration of the problems in the model. I gave illustrations of others as well besides that. But that's the reason between February and April we did not do that.

And I will give one last reason is that there is yet a new tool that Verizon has provided to us in California. I don't believe we have it here in Washington. But that is to help us to visually identify these changes that we want to make and then confirm that they are then relinked up and part of the preprocessing task. And that's a recent tool, it was something that was not available to us as of April 20th.

And so I would say -- I don't want -- this is a fluid environment that we're dealing with here in terms of the capability to do this, the development of a systematic way to solve the problem, and then confirming how to actually implement that for not just five but, you know, all of the situations in Verizon's network where this type of anomaly occurs.

Q. And you discussed with Mr. Richardson the fact that Delphi is commercially available, can you tell me approximately how much it costs?

A. You can get different classes of it, but I

think you could get it for approximately $500.

MS. STEELE: That's all I have, thank you.

JUDGE MACE: Mr. Richardson.

R E C R O S S - E X A M I N A T I O N

BY MR. RICHARDSON:

Q. I just want to ask you about the February meeting. You say that you were discouraged by Verizon from attempting to relocate SAI's in the network table; is that your testimony?

A. Well, we were actually -- let's -- to be real precise, we were told absolutely not to do it in the network table. You have to do it in the pre-network table.

Q. Sorry, pre-network table.

A. We were even discouraged to do it there, that it's a fairly complex process to make those changes.

Q. Wasn't the purpose of the meeting to instruct you how to do it in the pre-network table?

A. That's what I tried to say. I mean it's a situation where Verizon was doing what we had asked them to do, show us how to make these changes, and also telling us that it's a very complicated task that can create situations where you orphan is I believe the term that they used downstream terminals if you don't

correctly relink them to your moved SAI. And so it's -- we understand that it's complex, but we also felt that it needed to be done.

And so my take away from it was Verizon was saying only, you know, the faint of heart should not try this, and I'm not saying I was faint of heart because we were trying to come up with a systematic way of dealing with this, but if you really feel you have to do it, here's how it would be done. So it's complex, and yet we felt it needed to be done.

And I'm telling you even today, several months removed from that, we are still having problems with relinking within the preprocessing of Verizon's tools. So in other words, when you move it, you have to reconnect those downstream terminals. We're still having a difficulty doing that even with the tools that Verizon has provided us.

Q. Didn't Verizon say that the only restriction on moving them, I'm talking about at the meeting now, the only restriction on moving them was to make sure you formatted the table in a way that conformed with the existing table?

A. Well, you don't want to get me started on Verizon saying things. I mean we have routinely been given instructions on how different portions of

Verizon's costing tools will work, and we have found difficulties all along the way in operating within those instructions. So yes, there were instructions provided to us, there were tools provided to us. We are attempting to follow those, and we're finding it to be not as straightforward as we were provided during that workshop.

And we are going to continue to work with Verizon to reconcile this for the filing in California, but by April 20th we did not have the ability to do that, and as of today we still do not have that ability. Even though Verizon has provided us with tools and instructions, we're still finding it to be a very complicated process. It still doesn't mean that we don't want to do it, because we think it's necessary to accurately develop the cost as much as we can using the Verizon environment that they provided us.

Q. I understand your testimony that you believe that it's difficult to do, but I'm really asking you who told you that they were discouraging you from trying, and what were the words that they used, if you can recall?

A. I can't recall the person, but it was a general caution that was provided to us that whenever you go in and start trying to change the pre-network

table that Verizon has given us that you run the risk of orphaning downstream terminals and -- because you're effectively breaking the link that Verizon has, moving the SAI to a different location within the footprint, and then you're supposed to then relink the terminals back together. And we were cautioned that doing that can create problems, and in fact we're finding that to be the case.

But it doesn't change the fact that there are a large number, several hundred here in Washington and even more in California, where you have SAI's on top of one another, which based on Verizon's explanations to date should not occur in your network. And so we are trying to develop a systematic process to correct that problem so that we more accurately reflect what a forward looking network would cost.

JUDGE MACE: Mr. Richardson, Verizon caused to have marked a Cross Exhibit 758 for Mr. Turner, do you offer that in evidence?

MR. RICHARDSON: Yes, I would.

JUDGE MACE: Is there any objection to the admission of that exhibit?

MS. STEELE: No objection.

JUDGE MACE: I will admit it.

Is there anything else for Mr. Turner?

If not, then thank you very much, you're excused.

THE WITNESS: Thank you.

JUDGE MACE: I think we really need to have a little discussion about what we're going to do tomorrow.

CHAIRWOMAN SHOWALTER: Well, is it a case that we have --

JUDGE MACE: Let's be off the record, please.

(Hearing adjourned at 6:00 p.m.)