BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of the Petition of	
GTE NORTHWEST, INCORPORATED	DOCKET NO. UT-961632
For Depreciation Accounting Changes	VOLUME 3 Pages 73 - 245

A hearing in the above matter was held on July 28, 1997 at 10:15 a.m. at 1300 South Evergreen Park Drive Southwest, Olympia, Washington, before Commissioner WILLIAM R. GILLIS and Administrative Law Judge JOHN PRUSIA.

The parties were present as follows:

THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION STAFF, by SALLY G. JOHNSTON, Assistant Attorney General, 1400 South Evergreen Park Drive Southwest, Olympia, Washington 98504.

GTE NORTHWEST, INCORPORATED, by A. TIMOTHY L. WILLIAMSON, Attorney at Law, 1800 41st Street, Everett, Washington 98201 and JOHN ROGOVIN, Attorney at Law, 555 13th Street, NW, Washington D.C. 20004.

FOR THE PUBLIC, SIMON FFITCH, Assistant Attorney General, 900 Fourth Avenue, Suite 2000, Seattle, Washington 98164.

TRACER, by ARTHUR A. BUTLER, Attorney at Law, 5450 Two Union Square, 601 Union Street, Seattle, Washington 98101.

I N D E X

P R O C E E D I N G S

JUDGE PRUSIA: Let's be on the record. Today is July 28, 1997 and we're reconvened in docket No. UT-961632. This is the matter of the petition of GTE Northwest, Incorporated for depreciation accounting changes. It appears that we have the same appearances today as we had at the hearing on July 14; is that correct?

MR. WILLIAMSON: Correct.

JUDGE PRUSIA: Since there are very few counsel, I will ask you to go ahead and enter your appearance, just by name and who you represent beginning with the company.

MR. WILLIAMSON: Tim Williamson representing GTE Northwest, Incorporated and --

MR. RIGOVIN: John Rigovin representing GTE Northwest, Incorporated.

JUDGE PRUSIA: Commission staff.

MS. JOHNSTON: Sally G. Johnston, assistant attorney general appearing on behalf of Commission staff.

JUDGE PRUSIA: And public counsel.

MR. FFITCH: Simon ffitch, assistant attorney general appearing on behalf of public counsel.

MR. BUTLER: Arthur A. Butler appearing on behalf of TRACER.

JUDGE PRUSIA: Thank you. I will note for the record that Commissioner Gillis will be attending in person at this session. The other commissioners will not. Today we'll begin with the testimony of the GTE witnesses. First Mr. Sovereign and then Dr. Vanston and hopefully today we'll also get to the testimony of Commission staff witness Mr. Spinks and public counsel/TRACER witness Mr. King.

Before we went on the record public counsel distributed two replacement pages for Exhibit No. 22. Also, I marked for identification or after the last hearing the commission sent out a bench request, bench request No. 1, and received responses from Commission staff and from the company, and I have marked those responses for identification as Exhibit No. 26 which is the response from GTE and Exhibit No. 27 as the response from Commission staff.

Is there any objection to the admission of those into the record? Let the record reflect that there is no objection. Those are admitted.

(Marked and Admitted Exhibits 26 and 27.)

JUDGE PRUSIA: Is there anything further we need to cover in the way of preliminaries before I get

Commissioner Gillis? Very well, then. Let's be off the record for a couple of minutes.

(Recess.)

JUDGE PRUSIA: We're back on the record. Mr. Rigovin, your first witness then.

MR. RIGOVIN: Thank you, Your Honor.

Whereupon,

ALLEN SOVEREIGN,

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

DIRECT EXAMINATION

BY MR. RIGOVIN:

Q. Good morning, Mr. Sovereign.

A. Good morning.

Q. Could you please state your full name for the record spelling your last name?

A. My name is Allen E. Sovereign. The last name is spelled S O V E R E I G N.

Q. What is your business address?

A. 700 Hidden Ridge, Irving, Texas, zip code 95038.

Q. What is your occupation and by whom are you employed?

A. I am employed by GTE Telephone Operations

as a manager for capital recovery.

Q. Did you prefile written direct testimony and accompanying exhibits and rebuttal testimony in this docket?

A. Yes, sir.

Q. And in preparation for your testimony here, have you had predistributed what's been marked as Exhibits 1, 2 and 3?

A. Yes.

Q. Are those exhibits true and correct to the best of your knowledge?

A. Yes, they are.

Q. Were they prepared either by you or under your supervision?

A. Yes, they were.

Q. If I were to ask you the questions set forth in Exhibits 1 and 3 today, would your answers be the same?

A. Essentially, yes.

Q. Are there any revisions, corrections, modifications or additions to your testimony that you would like to make today?

A. Well, basically all of the stuff that's contained in the testimony is good. I would like to add that we're here to determine a proper level of

depreciation expense in a changing telecommunications environment, and then how do we do that is that we are generally looking for economists as telling us that depreciation is a change in the net present values of future cash flows from one time period to the next; and although we don't have a forward looking cash flow study to present, these concepts are partially included in the TFI forecast, especially the wireless study prepared by TFI, and is a best example of cash flows that we have.

And Dr. Crew says that the FCC's move to employ economic depreciation is thus constrained because straight line depreciation is used; given this, changes in depreciation policy are achieved by adjusting prescribed lives. And we agree with that statement, and the industry is currently in a struggle, as Mr. Crew describes, to determine the proper level of depreciation rates by adjusting that life.

MS. JOHNSTON: Excuse me, Your Honor. I'm sorry to interrupt you, but I'm going to object. I think there's a specific regulation concerning just what the foundation is for a witness's testimony and does not include summaries of the witness's positions on any given subjects. Under WAC 480-09-736 sub 8 the

witness is allowed to identify which subject areas he is to testify about. This is essentially supplemental new testimony.

MR. RIGOVIN: I think Mr. Sovereign is merely clarifying his testimony as an assistance to the bench, and I think that's all it is.

MS. JOHNSTON: Well, he's available to respond certainly to questions from the bench if there are, so I have a continuing objection to this.

JUDGE PRUSIA: I will sustain the objection.

MR. RIGOVIN: Mr. Sovereign is then available for cross-examination.

JUDGE PRUSIA: Did you want to move for the admission of those exhibits?

MR. RIGOVIN: Yes, I did. I would like to move that Exhibits 1, 2 and 3 be made part of the record here today.

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

MS. JOHNSTON: No objection.

MR. FFITCH: No objection.

JUDGE PRUSIA: Those will be admitted.

(Admitted Exhibits T-1, 2 and 3.)

JUDGE PRUSIA: Before we continue, let me

note that certain exhibits should have a T placed in front of them. I neglected to do that at the earlier hearing but I did have the reporter correct that for the transcript, so Exhibits 1 and 3 are properly T-1 and T-3, and for Dr. Vanston Exhibit 4 was properly T-4 and Exhibit 8 is Exhibit T-8 and for Mr. Spinks we have T-10 and T-11; for Dr. Crew T-14; for Mr. King T-16. I believe those are all of the T dash exhibits. Very well. Is there any cross-examination for Mr. Sovereign?

MS. JOHNSTON: Yes, Your Honor.

CROSS-EXAMINATION

BY MS. JOHNSTON:

Q. Good morning.

A. Good morning.

Q. Like to first direct your attention to your testimony at page 1, line 15. There you indicated that you worked for GTE for 22 years; is that correct?

A. Yes.

Q. And just prior to your being named manager of capital recovery in 1994, what position did you hold with GTE? It's not a trick question.

A. I know. I'm trying to remember. I'm trying to get the timing straight because that was --

prior to this current position I was manager of capital recovery for GTE southwest central area.

Q. And how long did you hold that position?

A. That was probably couple years.

Q. Have you ever held a position that was located at GTE Northwest in Everett?

A. No.

Q. On page 2 of your direct testimony at lines 3 and 4 you state that you are responsible for the preparation of filing and resolution of capital recovery studies for GTE; is that correct?

A. Yes.

Q. And prior to 1997 were you involved in the preparation and filing of depreciation studies with various states and the FCC?

A. Yes.

Q. Did you ever prepare a depreciation study for GTE Northwest Washington plant and equipment?

A. The one currently on file is the one that was prepared under my direction. Prior to that I have not.

Q. Would you agree that the depreciation studies you've prepared contain longer life indications than the lives that were used by the WUTC to calculate depreciation rates?

A. Could you ask the question again, please.

Q. Sure. I want to know if you would agree with the statement that the depreciation studies that you prepared, apparently in this docket, contained longer life indications than the lives that were used by the WUTC -- this Commission -- to calculate depreciation rates?

A. I will agree that the life indications are longer than the lives that I used in the study, but I have to qualify that the life indications are an historical based, and they are based on past retirement, and we're looking into the future, and then the goal here is to try and determine the proper level of depreciation expense, and I don't believe you can do that through current life indications.

Q. On page 18, lines 16 and 17 of your direct testimony, you state that GTE has been denied appropriate capital recovery rates in prior years. Do you recall that testimony?

A. Could you restate the page, please?

Q. Yes. Page 18, lines 16 through 17.

MR. RIGOVIN: It's of the rebuttal?

MS. JOHNSTON: Yes. I'm sorry, I misspoke. It's in the GTE direct testimony of Mr. Sovereign at lines 16.

MR. RIGOVIN: Of what page, please?

MS. JOHNSTON: Page 18.

MR. RIGOVIN: Of the direct?

MS. JOHNSTON: Yes. Beginning clause states, "In fact, having been denied the appropriate capital recovery rates in prior years."

Q. Do you see that?

A. Yes.

Q. But it's true, isn't it, that at least since 1984 GTE itself has conferred in every triennial represcription result brought to this Commission by the staff?

A. That we filed, that we filed at these rates, that we agreed on these rates and those things in the past. However, if you will recall the original request was for lives shorter than what were eventually agreed to and in a time where we were constrained by regulation that was the way the game was played. We are moving to a new environment and, again, we're trying to determine what the proper level of depreciation expense is in this changing environment. So I think that because we were under regulation we could control the rates -- consumer rates and the revenues the way they were coming in. We had that control. We don't have that any more so

then I think we are -- it's more important that we establish proper level of depreciation expense now.

Q. So the answer to my question is yes, the fact of the matter is that GTE has historically agreed to the rates set by this Commission?

A. I like "concur" better than "agree."

Q. Now I would like to turn to your rebuttal testimony at page 6.

JUDGE PRUSIA: Exhibit T-3.

MS. JOHNSTON: Yes, I believe it is.

Q. At page 6 you state that the FCC recommended to you that the 1997 triennial review of interstate depreciation studies be suspended pending the outcome of the notice of proposed rulemaking; is that correct?

A. Yes.

Q. And in response to a data request that was issued to you by public counsel, I believe it was data request No. 151, you indicated that the FCC recommendation was communicated to you verbally. Do you recall that?

A. Could I see a copy of that data request response, please?

MS. JOHNSTON: I think I have it here. Your Honor, may I approach the witness?

JUDGE PRUSIA: Yes.

Q. Do you need me to repeat my question?

MR. RIGOVIN: I think he's reviewing it.

A. I'm reviewing the data request. No, I think I understood the question. I'm sorry, reviewing that, could you ask the question again.

Q. Sure. I just want you to confirm for the record that in your response to that public counsel data request No. 151 you indicated that the FCC's recommendation to you that you suspend interstate depreciation studies pending the outcome of the notice of proposed rule making?

A. Yes. We talked to Ken Moran and Fatina Franklin at the FCC about filing an economic life depreciation study for interstate investment, and that's what they communicated to me, that why not wait until the NPRM to file because they were going to discuss this issue.

MS. JOHNSTON: Your Honor, I have three exhibits I would like to have marked. Your Honor, I would like to have these marked for identification as the next exhibits in line.

JUDGE PRUSIA: In which order did you want them marked?

MS. JOHNSTON: The order that they were

presented to you beginning with public counsel data request No. 151 and its response, moving to a letter dated September 23, 1996.

JUDGE PRUSIA: And then the October 7, 1996 letter.

MS. JOHNSTON: Yes, thank you.

JUDGE PRUSIA: I've been handed three one-page documents, and I will mark them for identification as follows. Marked for identification as Exhibit No. 28 is a one-page document which is response to public counsel data request No. 151.

Marked for identification as Exhibit No. 29 is a one-page document. It's a letter from Allen E. Sovereign dated September 23, 1996 addressed to Ms. Fatina K. Franklin, and marked for identification as Exhibit No. 30 is a one-page -- two-page document front and back. It's a letter dated October 7, 1996 from Fatina K. Franklin, chief competitive safeguards branch, FCC, to Allen Sovereign.

(Marked Exhibits 28 - 30.)

Q. Mr. Sovereign, I would like to direct your attention to what's been marked for identification as Exhibit 28. Do you recognize this as GTE's response to public counsel data request No. 151?

A. Yes. You said that was Exhibit T --

Q. I'm sorry, Exhibit 28.
A. Yes.
MS. JOHNSTON: Your Honor, I move the admission of Exhibit 28.
JUDGE PRUSIA: Is there any objection to the admission of Exhibit No. 28.
MR. RIGOVIN: No, Your Honor.
MR. FFITCH: No objection.
JUDGE PRUSIA: That exhibit is admitted.
(Admitted Exhibit 28.)
Q. Like to turn your attention now to what's been marked for identification as Exhibit 29. Do you recognize this as a letter you wrote to Ms. Fatina Franklin of the FCC?
A. Yes, I do.
MS. JOHNSTON: Your Honor, move the admission of Exhibit 29.
JUDGE PRUSIA: Any objection to the admission of Exhibit 29? Mr. Rigovin.
MR. RIGOVIN: Yes. What is the purpose of this? What is the relevance of this?
MS. JOHNSTON: It's relevant to rebut Mr. Sovereign's testimony that the FCC instructed him that he should -- or that GTE should not file depreciation studies this year with the states, and the series of

correspondence clears that.

MR. RIGOVIN: Okay.

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

MR. RIGOVIN: No.

JUDGE PRUSIA: Very well. Exhibit No. 29 is admitted.

(Admitted Exhibit 29.)

Q. Mr. Sovereign, is it correct, then, in this letter which has been marked and moved as Exhibit 29 that in this letter you indicate GTE's intention to file a depreciation rate proposal with the FCC but not to file a concurrent proposal with the state?

A. The intent was not to file a concurrent proposal with the states. The intent was not -- we had intended to file an interstate study that would be exclusively for the interstate investment including all of GTE's investment and not identified by state. Therefore, we didn't intend not to copy the state on the filing, but this study included all the investment of GTE, and you could not see the state investment in that, and so it would be an information where we would copy the state with the filing made to the FCC and it wouldn't contain a Washington-specific study for interstate investment. That was our intent when we

wrote this letter.

Q. Why did GTE decide to not file a current proposal with the states?

A. We didn't intend not to file an economic life study with the state of Washington, and in fact that's why we're here, but this was an interstate filing for the interstate investment, and we would subsequently file an economic life study for the intrastate investment for Washington.

Q. Please turn to Exhibit 30. Do you recognize this as a letter dated October 7, 1996 from the FCC to you in response to your letter of September 23, 1996?

A. Yes.

Q. Would you please read the first paragraph appearing on page 2 of this letter?

A. First paragraph on page 2. "This letter notifies you that if GTE does not submit the required information that meets our minimum submittal requirements we will not review your 1997 depreciation rate studies. If you intend to submit a study with this Commission please provide a study to the appropriate state commissions so that we can obtain their views."

Q. Thank you. On page 5 of your rebuttal

testimony, you discuss the FCC projection life ranges and state that they were quote-unquote based on the parameters prescribed by the FCC during 1990 and 1992. Do you see that?

A. Would you direct me to the page, please.

Q. Page 5, lines 10 and 11.

A. Of direct?

Q. Rebuttal.

A. Yes.

Q. Did you or anyone in GTE assist the FCC in developing the ranges?

A. The industry had input. All of the industry through STA had input. Did we assist the FCC? I don't recall if we did. I didn't.

Q. But if all of the industry had input then that would include GTE, would it not?

A. Yes.

Q. What is the basis for your understanding that the ranges were based on parameters prescribed during the 1990-1992 time frame?

A. I don't have a direct, quote but I know that that was a statement that the FCC made in their simplification orders in dockets '92 to '96 and I don't have a specific place to quote you on that but that is included in the text.

Q. What did you mean when you used the word "based" in this testimony? For instance, did you mean that the ranges were calculated as an average of the ranges?

A. I really believe it's about that simple and that's what I did mean.

Q. In preparing this testimony, did you contact Ms. Franklin at the FCC to see whether you were representing the FCC's position correctly and accurately?

A. No.

Q. Staying on that same page 5, I would like to direct your attention to line 17 through 20. There you state that the FCC has recognized these past practices are inadequate in today's environment, and is expected to issue a notice of proposed rulemaking to revise the process. Do you see that?

A. Yes.

Q. What do you mean by the words "past practices"? Are you referring to the process of determining ranges?

A. Past practices referring to the process of relying on retirement data to project the projection lives of -- by past practices I mean that the FCC has historically relied on mortality analysis and

historical life projections to predict the future. In a changing environment I believe that there is a different -- a different method required to calculate or determine the proper level of depreciation expense, and the FCC is entertaining those sorts of ideas in the NPRM.

And I had a discussion -- if you recall, when they asked that why don't you wait until the NPRM is issued before you file this economic life proposal, we had a discussion about why we were not willing to accept the FCC's proposals on projection lives, and Ken Moran made a statement something to the effect that if you are more concerned about the timing why don't you file a waiver when you file a study and then change the timing from straight line to accelerated, and that might address some of your concerns about timing.

And so I believe that the FCC may entertain some sort of change from this straight line allocation method, as Dr. Crew says, that in order to determine the proper level of depreciation expense you have to adjust the life statistic.

Q. So you anticipate that the FCC will reject or do away with mortality analysis and historical life projection?

A. I sure hope they do, but I don't think that that's -- I think that they will still rely on that as one of their study techniques.

Q. On page 10 of your direct testimony now at lines 17 you indicate that GTE does not rely solely -- are you there yet?

A. Page 10, lines 19?

Q. 17. Now, there you indicate that GTE does not rely solely on TFI's analysis of future trends. Can you tell us what else GTE is relying on?

A. In an effort to determine the proper level of depreciation expense, we look at TFI's projection lives and we also rely on comparative statistics with -- we are moving from a regulated industry to a competitive industry so the people that are already in that competitive industry may have ideas about what the proper lives should be for those accounts. So we look to AT&T and MCI and other providers of telecommunications services for their opinions about what these lives should be, and so that's another place that we rely on.

Q. And so aside from these comparative statistics you just referenced, there are no other analyses or studies or any other documentation supporting?

A. This is by its very nature a forecast projecting projection lives, and there is not any study -- the proper way to do it is a forward looking cash flow to determine a proper level of depreciation expense, and we agree that that's the right way to do it, but there are a lot of decisions that are going to be made by commissions to determine what that future cash flow is going to be, including the Washington Commission. And so, we believe that the forward looking cash flow is a correct way to approach that. We just have not been able to complete that because there are many decisions yet to be made.

Q. So the intent of GTE's analysis regarding future trends was to compile comparative statistics?

MR. RIGOVIN: Objection, Your Honor. I think that that's been asked and answered already. We've been over that ground already.

MS. JOHNSTON: Well, if I don't understand the answer --

JUDGE PRUSIA: I will allow you to ask the question to clarify.

MS. JOHNSTON: Thank you. I'm just trying to get a handle on what exactly did GTE do independent from the TFI studies.

Q. So I guess, Mr. Sovereign, I would like to

ask you what analysis did GTE do regarding future trends separate and apart from work performed by Dr. Vanston?

A. Well, if I might direct you to the testimony, my testimony, rebuttal, page 7, starting at lines 8. That is one of the comparative analyses that we did. And also there's a statement in MCI's annual report that says that they use a 10-year life for all the investment. Those things alone are pretty good indication that the lives that we're recommending are within a proper range.

Q. So does a study exist in which you or GTE compared different members of unregulated industry? In other words, if I were to make a record requisition this morning so that you could send me a copy of that study, is that possible?

A. There is an Arthur Anderson report that we use comparing depreciation rates of various noncompetitive companies, and that also is contained in a direct testimony of the few that we selected. However, there is no comparative study that we did other than what you see in the testimony.

Q. Thank you. Did GTE perform any analysis of future revenue streams produced by GTE's Washington assets?

A. I did not.

Q. Do you know of any?

A. Like I had mentioned earlier, GTE believes that the forward-looking cash flow is a proper way to do that, because decisions that are yet to be made, that is going to happen, and I'm sure they are working on it. I don't have the benefit of that analysis, but I felt like that GTE should ask for these lives that we're asking here because of the time factor. Every time -- the longer we wait to get these kind of lives implemented the more impairment that we feel will happen in the future.

Q. Thank you. I understand GTE's position in this case. Would you agree that the economic life of an asset is determined by the present value of future revenue streams produced by that asset?

A. I would agree that the economic life of an asset is determined by the expense difference in forward-looking -- net present value forward-looking cash flows. And that expense then is -- the life that we're talking about must be backed into from those -- from that proper depreciation expense, and that's what Dr. Crew talks about, the adjustment in the life statistic to come up with a proper level.

Q. On page 10 of your rebuttal testimony

beginning at line 9 you discuss the presence of facilities-based competitors in Washington; is that correct?

A. I'm sorry, would you point --

Q. On page 10, line 9.?

A. Page 10, line 9. Of rebuttal? I'm sorry, I'm in the wrong place.

MR. RIGOVIN: It must be the discussion going from 12 on.

MS. JOHNSTON: Yes.

MR. RIGOVIN: From line 12 on page 10.

MS. JOHNSTON: Yes.

A. Okay.

Q. Now, there you discuss the presence of facilities-based competitors in Washington state. Is that true?

A. Yes.

Q. And implicit in that discussion is the notion that if a competitor were to take away a GTE customer the access will no longer be producing revenue?

A. Because of facilities-based competition, you have a customer that's being given -- I want to say yes, and if you have a customer that is being served by an asset and that customer leaves that

revenue is gone, and then the only way to regain revenue is to find someone else to take the place of that customer. And so the answer is yes.

Q. So the potential for lower revenues caused by facilities-based competition justifies the lower projection lives proposed by the company. Is that your position?

A. We are moving from a regulated environment where we control the -- we had the franchise right of providing service for everyone in the area, and we're going to a facilities-based competition arena where we no longer have that provision, and so, yes, the answer is yes.

Q. In developing GTE's proposed lives, did GTE perform any study in which it examined how much revenues could be lost to facilities-based companies in Washington state?

A. I don't have that information readily available, but I do know that we are watching the number of customers that are leaving our network to facilities-based competitors, and to estimate the amount of revenue would be a difficult process because of the different kind of services that are provided on those different facilities. I would say that we probably are watching it but estimating the amount of

revenue would be a difficult thing, and I don't know that we have anyone that has done that. I don't know that.

Q. Is it correct that GTE's overall revenues grew last year in Washington state?

A. It's possible. If you're saying that I'm sure you have proof that it has been and I've heard that we are growing revenues, but let me -- can I qualify and say that we're about determining the proper level of depreciation expense when we move to a competitive environment and the notion that revenues are growing doesn't really address the fact that there is an economic loss in value because of the changing environment.

Q. In developing GTE's proposed lives, did GTE perform any study of future customer demand for telecommunications services in Washington?

A. Again, that would be best performed by a forward-looking cash flow analysis, and customer demand is going to be predicated on some decisions that are made, and we are in the process of performing that analysis.

Q. But as you sit here today, the answer to my question is no?

A. I would hate to say no. I'm not aware of

-- I don't have knowledge of those, but I didn't do any.

Q. I'm switching you back to your direct testimony. Direct testimony at page 10, lines 13 through 14, back to your past practices testimony, Mr. Sovereign.

A. Yes.

Q. There you testify that past practices -- past depreciation practices, I should say -- did not consider competition in the timing of capital recovery. Do you see that?

A. Yes.

Q. In response to staff data request No. 5 you indicated that there were no studies or analyses that supported that statement. Do you recall that response?

A. May I see the response? Do you have a copy?

MS. JOHNSTON: Do you have a copy of the data request?

MR. RIGOVIN: I can get it if you want to wait, or if you have one you might just want to show it to him.

Q. Do you recall that response, Mr. Sovereign?

A. Yes.

Q. Now, hypothetically, if life indications for a cable account were 45 years but the projection life used to develop the depreciation rate was only 27 years, to what factor or factors would you attribute the difference in the numbers?

A. We have been arbitrarily adjusting the lives for years and that's a -- I believe that if you look across the arbitrary adjustments made by the FCC and public utilities commissions, you will see the same kind of ranges only some are probably somewhere in a range of 18 to 20 for copper. That's where a lot of the commissions are resting now.

Q. Well, would you agree that the presence or absence of competition would be one of those factors?

A. Would you restate the question, please.

Q. If life indications for a cable account were 45 years, but the projection life used to develop the depreciation rate was only 27 years, so we have this gap in numbers, I'm asking you if you would agree that competition would be one of the factors that likely would have impacted or created that difference in the figures?

A. I'm not sure that it would, because the historical life indications for copper are -- we have been saying for years that the life indications for

copper aren't going to predict the future for that cable. I mean, it's similar to the life projections for analog switching. They never indicated the avalanche that we saw happen in analog switching, and I think a similar thing is happening in a technological switching of copper. And so this adjustment -- we've been trying to get that adjustment done long before competition was actually introduced by the Telecommunications Act.

And so, this 45-year of historical life indications was pretty typical for years, and we've been saying for a number of years that copper is going to be replaced by fiber and wireless long before competition was introduced, and so I wouldn't say that that gap is due to any competition introduction. I think that gap existed before competition was a reality.

Q. On page 25 of your rebuttal testimony, you attempt to show that Washington has the lowest depreciation reserve. Would you agree?

A. Washington has a very low depreciation reserve, yes.

Q. For what year were these reserve levels calculated?

A. I believe they were year end '96.

Q. Is the 1996 39 percent GTE Washington reserve level shown in Mr. King's testimony correct?

A. I would not argue whether it's correct or not. I don't know the source of Mr. King's 39 percent reserve, but these reserves are all on a basis where we exclude land. We exclude a lot of other components of reserve. This is just depreciable plant, and so this reserve was an internal calculation with our study data and it excluded some investment, like if you looked at an ARMIS report you might find some different numbers, but these are all comparative numbers based on the internal depreciation statistics that we keep.

Q. Like to follow up on this a little bit. You're indicating in your testimony at page 25 that the reserve level is 33.5 percent. Is that true?

A. Yes.

Q. And you believe that was calculated as of year end 1996. Is that true?

A. I'm pretty certain -- yes, I will say that that's true. If I'm wrong I apologize, but I would swear that that's year end '96.

Q. So it's fair to state, then, that there's a dispute, at least as far as you are concerned, with Mr. King's testimony at page 16 wherein he states that

the GTE Washington reserve level as of 1996 is 39 percent?

A. I am not disputing his number. Like I said before, depending on where he got his information he may have different plant balances, different reserve levels than I do for whatever reason. I won't dispute his number.

Q. In staff data request 13, the company provided a calculation of the average age of plant for each of the 28 states in GTE's territory. Do you recall that?

A. Yes.

Q. Do you know or will you accept subject to check that if you were to rank the 28 states by average age of plant from youngest to oldest Washington would be ranked No. 7?

A. I did that because I wanted to be certain that -- I felt like the statement was made that the reserve level had something to do with age, and there is some relationship, and so I did exactly that.

Q. So the answer is yes?

A. Yes.

Q. When did GTE acquire Contel Washington's properties?

A. I don't know for certain.

Q. Does 1990 sound close?

A. I wouldn't want to speculate. I know it was a few years back.

Q. Do you know whether any unusually large retirements occurred in the first few years following that acquisition? By unusually large I mean larger than average expected or normal retirements.

A. I don't know.

Q. Would you agree that unusually large retirements as I've defined them tend to, temporarily at least, deplete the depreciation reserve?

A. Well, a retirement would have a tendency to -- there may be some reduction in reserve ratio with a retirement.

Q. Would you accept subject to check that in 1993 GTE retired over 70 percent of the $54 million investment in the Washington computer account?

A. I won't dispute the number, but I want to see what the size of the total Washington investment is to that computer account. I can't imagine that the overall reserve would be much affected by a computer account.

Q. Is it correct that in 1991 and 1992 GTE retired over 60 percent of its Washington circuit equipment, or will you accept that subject to check?

These figures are drawn from GTE's response to staff data request No. 2 --

A. Okay.

Q. -- if that will assist you in checking these figures. So will you accept that subject to check, Mr. Sovereign?

A. Okay.

Q. Did GTE perform any study of the GTE Washington depreciation reserve in an effort to determine why the reserve level was at 33.5 percent?

A. Well, there's a couple of states we have that have a very low reserve. It's Washington and Arkansas, and neither of those two states allow ELG or have allowed it in the past until very recently Washington has. Arkansas has yet to. Those two states have a very low reserve and young plant.

Q. It's true, isn't it, that the Commission authorized revised depreciation rates for GTE in Washington in 1995?

A. Yes.

Q. And the revised rates incorporated the ELG methodology on a going forward basis; is that correct?

A. Starting with the 1995 vintages, and that's a very minor amount of impact as yet. If we have time it may pick up.

Q. And at the same time the Commission also authorized a five-year amortization period of the reserve deficiency; is that correct?

A. There was a reserve amortization in there, and I don't know if it was a reserve deficit -- I would have to check on what the specific purpose is. I thought it was for a specific account, a dying account as opposed to a general. If it was then, yes.

Q. Well, you can accept that subject to check. I can direct your attention to docket UT-940926. In fact, GTE and staff stipulated to those terms, isn't that true, there was a settlement agreement?

A. There was a stipulation, yes.

Q. Based on parameters currently authorized by this Commission, does GTE Northwest Washington have a depreciation reserve deficiency today?

A. I would like to qualify that. If you took --

Q. Could you answer the question first?

A. The answer to your question is yes. There is not a reserve deficiency if you use the prescribed parameters by the Washington Commission. In a classic theoretical sense reserve deficiency is defined by the lives that you use. The Washington depreciation lives are quite long compared to the rest of the states.

Therefore, it would dictate that you would have a low reserve. If you were to use the economic lives that we're proposing you would have quite a high reserve deficiency.

MS. JOHNSTON: Your Honor, as the first record requisition we would ask that Mr. Sovereign prepare some sort of document listing the lives in other states.

Q. I believe -- didn't you just testify that Washington's lives were long compared to the other states?

A. That's a -- I would prepare a response to that. I did say that they were, and I believe you will see -- I haven't done that, but I believe you will see that they are long compared to the lives that we prescribed in other states.

Q. Could you include all 28 states, please, in that?

A. Okay. Yes.

JUDGE PRUSIA: That will probably be record requisition No. 1.

MS. JOHNSTON: That's all I have. Thank you.

JUDGE PRUSIA: Does public counsel have any cross for this witness?

MR. FFITCH: Just a few questions.

CROSS-EXAMINATION

BY MR. FFITCH:

Q. Morning, Mr. Sovereign.

A. Morning.

Q. I'm public counsel. My name is Simon ffitch and I'm representing public counsel here this morning, state of Washington. I'm going to direct you first back to your direct testimony. Perhaps you're already there, but, in any event, your direct testimony, page 12. And at line 17 you state that the TFI study utilized by GTE in this case used data from GTE; is that correct?

A. Yes.

Q. Could you identify where in the TFI studies filed in this case we would look to find that GTE data?

A. I can't direct you to where they would be found if they aren't specifically identified.

Q. Where do we find data in those TFI studies that are referred to here that include specific GTE Washington information? Would that be the same answer?

A. I thought that was the same question.

Q. Well, my first question is related to GTE generally and this question related to GTE Washington operations.

A. Same answer.

Q. Has GTE performed any independent study to determine whether the TFI studies are appropriate for use for the Washington service territory?

A. Not specifically for the Washington service territory, but for GTE, yes.

Q. I would like to direct you to pages 2 and 3 of your direct testimony.

MR. FFITCH: This is Exhibit 1 that we're referring to here for the court reporter.

Q. And page 2 and 3, Mr. Sovereign, you make a distinction between the useful life of plant and the period of time it's on the books.

A. Yes.

Q. That's correct? As I read your testimony, you believe that there may be times when plant is on the books but not useful; is that correct?

A. Yes. I gave an example of that earlier when we were asked about someone leaving as a customer; if we are serving the customer with a facility and they leave for someone else as soon as that customer leaves that facility is not being used.

And so that is not -- and they're also not an associated retirement.

Q. So that's the future problem that you're predicting in this case as a result of competition; is that correct?

A. As a result of competition -- I don't think it's about retirement that we're looking here and about life. I think it's about the proper level of depreciation expense, and in the determination of the proper level of depreciation expense I think it's incorrect to seek retirements and your questions are about seeking retirements, and that's not what the proper level of depreciation expense is.

Q. Well, my question really is focusing in on your statement that I've just referred to or your discussion which would indicate the plant can be carried on the books but not be useful plant, and that's a correct statement of your discussion, is it not?

A. Yes.

Q. Would that occur in fact when plant is obsolescent but still in use?

A. If it's still in use and not retired, I assume that there would be a -- again, we're talking about the future -- the level of depreciation expense,

and if you have obsolescent plant you --

Q. Excuse me, sorry for interrupting, but I'm asking you about current depreciation accounting. Under current scenario when plant is obsolescent but still in use, is it carried on the books?

A. Yes, it's carried on the books. But when you're determining the proper level of depreciation expense, the idea, the notion, that it's obsolete does impact the proper level of depreciation expense.

Q. Would this occur also when plant is no longer fully utilized, in other words, that no longer fully utilized plant would also be still on the company's books?

A. That goes to the example we said before, when a customer leaves that facility is not fully utilized, correct.

Q. How about when the plant is not earning revenue under current rate-based rate of return regulation, still carried on the books, is it not?

A. Yes.

Q. Right now, is there any plant in GTE's rate base that is no longer useful?

A. That's a very difficult question. Whether it's being used or whether it's useful, there's a difference. If we are carrying it as an investment on

the books I assume that it is useful plant, and I would not characterize any of our investment as not useful.

Q. Right now is there any plant that's so poorly utilized that it does not pay for itself?

A. That can only be determined. There is an issue whether plant is in anticipation of being under utilized, and you can only determine that by a forward-looking cash flow analysis and then I can't answer that question.

Q. Well, I'm asking you to answer it in the context of current depreciation methodology. I understand the company's position that you would look, prefer to look, to the forward-looking cash flow analysis, but under the current depreciation regime, is there any plant that is so poorly utilized that it's not paying for itself, it's included in the rate base that's on the books of the company?

A. Well, paying for itself, I want to answer no, that I don't believe so, because if you have a total amount of investment for GTE in Washington that is providing service in the state of Washington, and then when you characterize it as a particular piece of investment as not earning enough to cover its cost, I think you have to look at the total investment

of GTE Northwest in the context of how much revenue was being earned. I don't believe you can look at individual assets that way.

Q. But essentially your answer is no, with that explanation?

A. My answer is no to the idea that -- yes, the answer is no.

Q. Then in fact the condition you describe in your testimony, again looking at line 18 -- excuse me, let me direct you to page 15. Jumping around on you here. Page 15 of Exhibit 1, line 18, the situation which you describe there using the term "partial retirements." That condition doesn't exist at the present time; is that correct?

A. I don't know that.

Q. Right now, if GTE has obsolescent or poorly utilized plant in its rate base, is it still charging ratepayers depreciation for it?

A. Again, I think you have to look at the context of the total investment within GTE and the level of service that's being provided. I don't believe you can look at a particular asset in this instance, and in the instance that we described where a customer would leave from the GTE network to someone else's network we don't make a retirement and that

investment is still required to provide the total service of the company.

Q. I understand that that's your hypothetical scenario of the future problem, but I'm focusing on the current -- again, on the current depreciation regime. Right now, is there any plant in the rate base that does not earn revenue?

A. I will say no. I will say that that's a difficult question to answer because when you are in the process of changing facilities and adding plant sometimes you build in anticipation of more and then when you are changing from fiber to -- when you're changing from fiber you sometimes convert facilities from interoffice to distribution and you may not see a retirement, and so the notion of seeking retirements does not give us a picture of what the proper level of depreciation expense should be.

Q. My question didn't, I think, use the term "seeking retirements," and I simply asked you whether there's any such thing as plant in the rate base that does not earn revenue, and as I heard your initial answer it was no?

A. I want to restate my answer, then, that there are probably -- when you have fill factors that are not 100 percent then you have some plant that is

necessary but not being used, so I gather there are assets that aren't particularly involved in the revenue producing process but are necessary to continue the function of providing service, so it's difficult to characterize it as not producing revenue.

Q. Very well. Do I understand your objective or GTE's objective in this case correctly as design to increase your depreciation recovery now?

A. What we're trying to identify is the proper level of depreciation expense.

Q. I'm sorry. Could you begin with a yes or no answer? Is that the objective?

A. Yes.

MR. RIGOVIN: I think he's giving you the best answer that he can, and sometimes those questions can't be answered yes or no and sometimes they need an explanation.

MS. JOHNSTON: He just answered yes.

MR. FFITCH: Your Honor, I believe I'm satisfied with the initial answer. Perhaps if counsel would like to get an explanation on redirect that would be fine.

JUDGE PRUSIA: I believe he's already answered it.

MR. FFITCH: Thank you.

Q. Mr. Sovereign, since GTE is now -- it wanted under rate base rate of return regulation under this Commission that increased depreciation would be collected from ratepayers; is that correct?

A. In the event that we would go into a rate case but I don't believe we are in one.

Q. Well, I think everyone would stipulate we're not presently in a rate case, but in the event the company sought to cover the increased depreciation expense that would be pursuant to a rate case and from Washington ratepayers; is that correct?

A. Yes.

Q. And GTE's position, as I understand it, is that in the future competition may prevent the company from recovering the depreciation from Washington ratepayers?

A. The answer is yes, but I would like to qualify. That's exactly why we're asking for the increase now is because we believe that with the introduction of competition the proper level of depreciation expense only can be determined by the future -- by future cash flow analysis and that the decisions by this Commission and others will determine what that future revenue stream will be, and so to the extent that we have an opportunity to recover now,

that's why we're asking.

Q. In fact, regardless of obsolescence or under utilization of the plant, if you increase your depreciation recovery now you can be assured of collecting it, can you not, whereas later when competition comes there's some risk that you may not be able to recover that depreciation. Is that your position?

A. Could you restate the question, please.

Q. I agree it's a long question. Regardless of obsolescence or under utilization, if you increase your depreciation recovery now you can be assured of collecting it whereas later when competition comes GTE's view is that there's some risk of inability to recover that depreciation. Is that a fair statement of your position?

A. I have trouble with the qualification of "obsolescence" and "under utilization."

Q. Well, let me just edit the question then and take those points out. If you increase your depreciation recovery now you can be assured of collecting it whereas later when competition comes there's some risk involved in recovering that depreciation and the company would prefer to minimize that risk. Isn't that correct?

A. I believe that that's a better characterization. Our position is that there is an opportunity to identify the proper level of depreciation expense now and we are taking that opportunity.

Q. And that would be the case regardless of whether you took obsolescence or under utilization into account, would it not?

A. Well, yes.

Q. Like to direct you to -- staying with Exhibit 1, your direct testimony. At page 10, line 4 there you state -- do you have that?

A. Page 10, line 4.

Q. Correct. There you state that regulated lives approved by the Commission have been artificially long in order to keep customer rates lower. On what do you base that assertion?

A. It's part of -- it's part of my -- what I know about what we call the regulatory compact and there is -- in order for -- when we can control the environment, that's the regulatory bodies, they can control the rate of technological influx, the rate of revenues coming into the company, and under universal service there was an obligation or a challenge to provide high quality service at affordable rates.

And so in an effort to keep those rates affordable we would push out the capital recovery, and it worked very well as long as we could all agree on the timing, and if there was control over that environment. I would say that's my basis for making that statement.

Q. Can you cite me Washington Commission order or Washington other decision that indicates that this Commission has intentionally skewed depreciation rates downward?

A. I think that when we look at the level of depreciation expense and the lives prescribed by the Commission, it becomes quite clear, in my mind, and I don't believe that there's any order that specifically says that that was the intent.

Q. Could you please turn to page 17. This is still Exhibit T-1, line 21. There you state that the company's composite rate at the proposed service lives is 11 percent. That's correct, is it not?

A. Yes.

Q. Do you know what the composite rate is for all -- for all local exchange companies in the country?

A. I don't know what it is for all local exchange companies in the country.

Q. Would you accept subject to check that the FCC's statistics of common carriers shows that the average plant in service in '95 of all reporting local exchange telephone companies was $273 billion and the depreciation expense for those carriers was $19.4 billion, subject to check?

A. What were the numbers again?

Q. The average plant in service, $273 billion, and the depreciation expense $19.4 billion, and those figures are for all reporting LECs.

A. Yes.

Q. Would you care to calculate the composite depreciation rate or will you take my word for it that it's 7.1 percent?

A. That doesn't surprise me.

Q. On page 18 you show the composite rates for seven companies, and this is page 18 of Exhibit T-1, the next page.

A. Yes.

Q. What kinds of companies are we looking at on that page of your testimony?

A. Unregulated.

Q. And what lines of business are they in?

A. Telecommunications.

Q. Well, a bit more specifically, what

segments of the market? For example, I see we have some IXCs, some interexchange carriers.

A. Some cable TV providers. And I say telecommunications because of the converging industries. The convergence of the different kind of lines of business that we're in, and that's why I think it is appropriate to compare.

Q. But specifically isn't it fair to say that that list includes interexchange carriers, cellular companies, cable companies and a CLEC; isn't that correct?

A. That's fair.

Q. And does not include a local exchange carrier?

A. Well, not an ILEC, an incumbent local exchange carrier, but there are local exchange carriers in there.

Q. But it does not include an incumbent local exchange carrier?

A. Correct.

Q. And all these companies confront direct competitors for their services at the present time; isn't that correct?

A. That's correct. That's why we use those for comparison. That's what we're about to do.

Q. Are the depreciation rates of any of these companies set by regulators?

A. No, they are not.

Q. Instead these rates that are included in your table on page 18 are all financial reporting depreciation rates, are they not?

A. That's correct.

Q. Notwithstanding that only one of these companies, as I look at the table, has a depreciation rate higher than the 11 percent that you're proposing here; isn't that correct?

A. That's correct.

MR. FFITCH: I don't have any further questions.

MR. BUTLER: Would it be possible to take a short break, two minutes maybe?

JUDGE PRUSIA: Sure. Let's take a three-minute break. We'll be off the record.

(Recess.)

JUDGE PRUSIA: Let's be on the record. Ms. Johnston, will you repeat what was your record requisition No. 1 and that would become instead a bench request, bench request No. 2.

MS. JOHNSTON: Comparison of projection lives in eight accounts in all 28 states in GTE's

territory. Do you understand the question?

THE WITNESS: Yes.

JUDGE PRUSIA: Very well. Thank you. Mr. Butler.

(Bench Request 2.)

CROSS-EXAMINATION

BY MR. BUTLER:

Q. Mr. Sovereign, in your discussion with Mr. ffitch, you reiterated that you are seeking what would amount to a composite rate of 11 percent for GTE in Washington; is that correct?

A. Yes.

Q. Can you tell us what the current composite rate for GTE in Washington is?

A. I don't know exactly but it's like -- it's in the five and a half range, 5.5 percent range.

Q. In response to a record request could you provide the actual composite rate, if you could check that and provide it for us, current one for GTE in Washington?

A. Can I refer to my testimony? In the exhibit -- in the study, exhibit; I think it's T-2 -- there's a statement A and a statement B.

Q. If you could point me to that specific --

A. It's Exhibit A, it's labeled Exhibit A, but I think it's T-2. In the back of that exhibit there's two statements, one labeled statement A and one labeled statement B and on statement B you would see where the 11 percent is, the request, and on the left-hand side you will see a current composite of 5.5 percent and you will see a total of 6.4 percent. I believe those amortizations are ended, so it would be 5.5 percent.

Q. That's fine, then, thank you. If you could turn to your rebuttal testimony, Exhibit T-3, please. Specifically to page 5 at lines 1 and 2. Do you have that?

A. Yes.

Q. There you state that the FCC lives are based on historical experience. Is that a fair characterization of what you said there?

A. If you are -- the FCC bases their projections on projection lives, historical and future, and then it's a matter of the weighting, and I am saying here that the FCC staff gives much -- a considerable amount of weight to their historical and less to the future.

Q. So when you say state here at line 1 that the FCC gives little weight to the FCC staff's view of

the future but instead gives excessive weight to the analysis of historical experience, you're not suggesting that the FCC ignores the recommendations of the FCC staff; is that correct?

A. No, I'm not. I'm saying that the FCC staff is party to that weighting.

Q. And it is not your testimony, I take it, that the FCC does not consider the effects of future developments such as technological developments or competition or whatever in coming up with its service lives?

A. I would say the answer to that question is no, and I would say that I am discussing here the amount of weight they put on the historical analysis versus the amount of weight that should be directed towards the future.

Q. And could you tell me what the basis for your conclusion that they give little weight to the future events is?

A. Their lives are shorter than the ones I'm proposing -- longer, rather.

Q. That's the entirety of the basis for that statement?

A. I believe, and I believe that any weight to historical is too much.

MR. BUTLER: May I approach the witness, Your Honor?

JUDGE PRUSIA: Yes.

Q. Mr. Sovereign, I'm showing you a report dated April 15, 1987 entitled Accounting and Audits Division Report on Telephone Industry Depreciation Tax and Capital/Expense Policy. I would like you to read the last sentence of the first paragraph on page 8 of that report. If you could read it aloud for the record, please.

A. "We determined that by paying closer attention to company plans, technological developments and other future-oriented analyses more realistic forecasts could be made and we have since adopted those recommendations."

Q. Would you turn to page 18 of Exhibit T-3, please, specifically line 11.

A. 18 of the rebuttal?

Q. The rebuttal, yes. There you describe the condition in which copper previously used as feeder is converted to distribution plant as emergency spares. Am I correct in your discussion with Mr. ffitch that you indicated that in fact there are occasions when copper that was previously utilized as part of feeder plant is re-assigned to distribution; is that correct?

A. Yes, that's correct. That's what the testimony says.

Q. Is it the case that it is never actually utilized to provide service but is only reassigned as emergency spares or redundant routing or would there be occasions when --

A. I don't know that. I don't know that. I'm saying that that is a potential.

Q. So you are not saying that in fact what was previously feeder could not be reassigned and actually utilized as distribution to provide service to customers?

A. The point that I was trying to make here is showing the -- I'm going to say that the answer is no but the qualification is the point it's out of context. The point that I was making here is that the retirements wouldn't -- if you're seeking retirements to use for determination of service lives then this example shows that that would be incorrect, and that's the point of the discussion, and that's why I mention that.

Q. Yes, I understand, but it is your testimony that it is possible that what was previously feeder plant could be re-assigned and used as distribution to provide service; is that correct?

A. Well, it could be, but the point that's real is that the existence of plant that's not being fully utilized doesn't mean that we're going to achieve capital recovery. It doesn't mean that you could use something for --

Q. I understand your point. I was just simply trying to establish the fact that it could be utilized as distribution to provide service.

A. It could be and it might not be.

Q. Now, you say that if it is used for emergency spares that it would have no economic life because it does not generate net present value.

A. Positive.

Q. Does that mean that emergency spares provide no value to GTE?

A. That's not what the statement said. The statement said that -- the statement says that you have a large cable. The only revenue you receive is for an alarm circuit or -- I forget what the example was but very, very large investment with very little revenue would indicate that there wouldn't be any economic life.

Q. Would you agree that the value of these cables used as emergency spares are still included in the company's rate base?

A. The existence of that investment in the company's books, if you would assume that that was not used, under utilized, obsolete, and then you say that if it's included in the company's books you would still get capital recovery for that, I think is not relevant in the fact that we're looking at the total investment of GTE. We're looking at return on, return of its investment. If it's no longer being utilized or under utilized there is a fear that we will not achieve capital recovery and that's a very complex scenario, and it's what we're trying to discuss here is the capital recovery of the investment that we have made in good faith.

Q. But you will agree, won't you, that under present procedures those cables are included as part of the company's rate base?

A. They are included and there is a fear of capital recovery of those investments and that's why we're asking for the increase in --

Q. I understand.

MR. RIGOVIN: Excuse me, Counsel, he's finishing his answer.

Q. I'm sorry, go ahead. Are you finished?

A. (Nodding.)

Q. You will agree, will you not, that today

those cables are a part of the rate base upon which the company's rates are set; is that correct?

A. If -- this is a hypothetical, and I am not saying that we have a situation like this, but hypothetically if this were to occur and we only had an alarm circuit and couldn't retire it, it would be on the rate base but it does not have any value because of that situation.

Q. In your discussion with Mr. ffitch you mentioned the circumstance where the company has fill factors that would allow for additional capacity for future growth. Did I remember your testimony correctly?

A. I mentioned that as an example, and the only reason I mentioned it is that I know we don't -- and I don't know anything about fill factors, you're out of my area, and so I don't really want to answer any questions other than to state there's either a situation of 100 percent utilization or something less, and I have known from experience or from the years that I've been around that we have fill factors that are less for other purposes. But that doesn't necessarily mean that they're not useful.

Q. Does the TFI study upon which you based your recommendations recognize that some of the

interoffice cables do not retire when they are taken out of interoffice service but are reassigned to distribution service?

A. I wanted to point out when we talk about interoffice cable that we are looking -- that you make the assumption that when we place fiber there's an associated retirement in copper, and if we are seeking retirements because of things that are changing the utilization of that equipment, you will not see those retirements to predict the actual useful life of the asset for that purpose, and that's -- when you look for the retirement you're not going to basically predict the right kind of life for this equipment.

Q. Again, my question is, does the TFI study assume that these interoffice cables are retired or at least that their economic life has ended?

A. I believe you should ask Dr. Vanston that question but just from my -- I'm not answering for Dr. Vanston. I believe that he's talking about not the retirement but the change in use or the migration.

Q. So when you used Dr. Vanston's studies and recommendations as the basis for the lives that you have recommended to this Commission, what did you have in mind about how Dr. Vanston treated interoffice cables that are removed from that category, utilized

for another purpose?

A. I don't believe Dr. Vanston addressed that situation. I felt that that was our situation to address, and again, you will have to ask Dr. Vanston what he believes about retirement, okay. So, what we are trying to assess here is the proper level of depreciation expense, and the proper level of depreciation expense cannot be determined by looking at retirements. It has to be determined by a forward-looking cash flow, and once you determine what the amount of economic depreciation that occurs as a result of those forward-looking cash flows is then you can make some determination about the proper economic life. And Dr. Vanston's work we feel is a surrogate for that life statistic that we're trying to adjust instead of actually doing a cash flow. So to seek retirements and to assume that Dr. Vanston's work looks at retirements and makes predictions about retirements is incorrect.

Q. What study did you do to convince yourself that Dr. Vanston's technology substitution approach is a reasonable surrogate for cash flow analysis?

A. When Dr. Vanston speaks about the -- what convinced me is that when you look at what his work does it's trying to predict the change from one kind

of technology to something else, and you look at there are indications of different kinds of delivery systems and whatnot for cable, for digital switching and circuit equipment. There are different kinds of equipment that are going to be out there. We know what some of the things are that are going to replace our copper network today, and so what convinced me is that when he talks about the demand for services from a telecommunications environment, that there needs to be some other kinds of delivery systems, it convinced me that he knew what he was talking about when he predicts how long this stuff is going to be useful to the provision of that service in this converging telecommunications market.

And so the implication is that as long as it's used for providing service someone will make the economic decision to replace or go to some other kind of investment, and so that says to me that there was some consideration of economic value or of economic usefulness or provision of service usefulness for this equipment.

Q. But, again, if you're talking about the situation where interoffice cable that was previously copper is replaced by interoffice cable provided on fiber, you do not know, if I understand correctly,

what assumption Dr. Vanston made about what happens to that copper or whether it is put to another use that would generate revenue for the company?

A. I don't know what Dr. Vanston did, but in my opinion it's irrelevant to the projection of economic lives.

Q. Could you turn to page 26 of Exhibit T-3.

A. 26 of the rebuttal?

Q. Yes. There you compare the indicated life of digital switching under two curve shapes, GM 2.5 and square. Could you please describe what is meant by the two curve shapes that you discuss here?

A. The two -- curve shape is a definition for retirement pattern or retirement dispersion, and that's simply -- a retirement dispersion is if you look at a single vintage over time how much of that investment retires every subsequent year.

Q. And could you describe a little more specifically what that square curve shape is supposed to represent?

A. A square curve is all the retirement of a vintage occurring at a point. A retirement dispersion would be a spike in time.

Q. So, in other words, under the square curve shape all the digital switches would be replaced at

once. Is that a fair statement?

A. Under a square shape -- a square shape says that you -- it's similar to the life span analysis that we used to do. You pick a point when that switch is going to retire and so the investment then will follow that pattern. And there were some interim retirements to change the slope of the curve from nothing down to some line. We used to call that a trapezoidal, but that is very close to a square. And so it's used generally -- it used to be used generally for structural assets like switching is when you pick a point in time when a switch would retire, and so, yeah, you would assume that the investment at that location would retire all at once.

Q. So, again, the investment associated with the entire switch -- that switch would retire all at one?

A. When you remove a switch from service you take all the investment out, yes.

Q. Now, would you agree that characteristically digital switches are not replaced all at once but in fact they are modular in nature? And that different components will have different lives associated with them?

A. What I was trying to point out with this

example -- the answer to your question is yes, but the purpose of this is simply to point out that by choosing a different retirement dispersion you would get different life indications, and GM 2 and a half was selected by the FCC as a proper retirement dispersion for digital switching, but who is to say if that retirement dispersion will be followed into the future. And so if you're looking for a retirement dispersion you can get different life indications by assuming, and that's what this GM 2 and a half is is an assumption made by the FCC about what the future retirement dispersion will be.

Q. I take it the answer to my question is yes, that digital switches are modular and do not actually retire all at one time?

A. Yes, that's correct.

Q. Now, on page 28 you present a table that purports to show retirement dispersion assumed by Mr. King. Can you identify where in his testimony Mr. King assumed a straight line retirement dispersion?

A. No.

Q. And in fact there's no assumption about dispersion of retirements over the service lives of Mr. King's testimony; isn't that correct?

A. No.

Q. What is the basis for your assumption about his --

A. Well, in the -- the way I understand Mr. King's testimony was that he assumed that if you -- the way I understood it is that he didn't dispute the retirement dispersion proposed by Dr. Vanston. He used a ratio based on the ratio of the retirements predicted by Dr. Vanston's curve shape to the actual retirements and then ratioed down the life indications to that amount, and what that was was it wasn't -- by using that ratio he had to assume that the retirement shape or retirement dispersion would change.

Q. And what is your conclusion about what assumption he made about the retirement dispersion?

A. I think -- I think he was correct to assume that Dr. Vanston's retirement -- dispersion was okay but by using the ratio it was -- the new assumption was wrong. He was incorrect.

Q. In the paragraph following the chart on page 28 you state that AT&T and Sprint have abandoned their copper networks. Do those networks presently consist of a mix of interoffice feeder and distribution plant similar to GTE's?

A. Would you repeat the question, please.

Q. Do the networks of AT&T -- let's just take

AT&T as an example. Does the network of AT&T consist of a mix of interoffice feeder and distribution plant similar to GTE's?

A. I don't know.

Q. Do you understand that AT&T's network is primarily interoffice in intercity facilities?

A. I don't know.

Q. Do you know whether AT&T has significant amounts of distribution cable in its present network?

A. I would assume that it doesn't. It's an assumption I don't know for certain, and I would speculate that that would be the case.

Q. So am I correct, then, that you do not have a basis for comparing the AT&T network to GTE Northwest's network in Washington state?

A. The basis is that when they -- when AT&T -- when the Sprint pin dropped that changed AT&T's world. They had to abandon copper to go to a fiber network, and I think that is the comparison that I would like to make is that the passage of Telecommunications Act is like our pin dropped and that it's changing the nature of what we're doing, and so when you're looking at the transformation of the telecommunications industry to some future then we have a similar situation where we have a totally copper network and

competitors are placing fiber. Like in Washington fiber -- there's several fiber cables past 9,000, business customers in the Washington area. So in order for us to stay in the business we also have a similar situation where we have a copper network and we have to transform, then, to something else, and that's why I think it's relevant.

Q. Is it your testimony that facilities-based competitors have deployed fiber distribution plant to residential customers in GTE territory?

A. I don't know.

Q. You don't know one way or the other?

A. I don't know one way or the other.

JUDGE PRUSIA: Excuse me, Mr. Butler, how much longer do you think you have?

MR. BUTLER: About 30 seconds.

Q. Could you turn to Exhibit 6 which is the TFI study marked as Exhibit LKV-2. Do you have that?

A. I don't have it here.

I have the exhibit.

Q. Could you turn to page 17, please. Would you agree that that chart shows that in 1995 the typical local exchange company had already converted 90 percent of its interoffice plant to fiber?

A. Okay.

Q. Can you tell me what percentage of GTE's interoffice plant was converted to fiber as of 1995?
A. No, I can't.
Q. Do you know who Ralph Mayfield is?
A. Yes.
Q. Does he work under your control?
A. No.
MR. BUTLER: Like to distribute two responses to data requests and then I will be finished.
Q. Mr. Sovereign, can you identify these -- first of all, I, guess could I ask that these be marked for identification as the next exhibits in line?
JUDGE PRUSIA: 115 the first one?
MR. BUTLER: Yes.
JUDGE PRUSIA: I've been handed two one-page documents the first of which I will mark for identification as Exhibit No. 31 is GTE response to public counsel data request No. 113.
(Marked Exhibit 31.)
Q. Mr. Sovereign, can you identify what's been marked as Exhibit 31 as GTE's response to public counsel data request 113?
A. Yes.

JUDGE PRUSIA: The next one marking for identification as Exhibit No. 32 is GTE response to public counsel data request No. 115.

(Marked Exhibit 32.)

Q. Mr. Sovereign, can you identify what's been marked for identification as Exhibit 32 as GTE's response to public counsel data request 115?

A. Yes.

MR. BUTLER: Move the admission of Exhibits 31 and 32.

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

MR. RIGOVIN: No.

JUDGE PRUSIA: Those exhibits are admitted.

MR. BUTLER: No further questions.

(Admitted Exhibits 31 and 32.)

JUDGE PRUSIA: Very well. We'll take a lunch break now. Let's try to be back here at 1:30 and see if the telephone people are finished at that time.

(Lunch recess taken at 12:20 p.m.)

AFTERNOON SESSION

1:35 p.m.

JUDGE PRUSIA: We're back on the record after our lunch recess. We're continuing with the examination of Mr. Sovereign. I believe we finished with the cross-examination before lunch, and at this point have an opportunity for the Commission to ask questions, and also the Commission's accounting advisor will ask some questions. First of all, I will ask Mr. Lott if he has any questions for the witnesses. I will remind you that you are still under oath, Mr. Sovereign.

EXAMINATION

BY MR. LOTT:

Q. Good afternoon. I haven't done this very often but here we go. I just have a few questions. Basically some of them are just clarifying type questions, and I don't quite understand what goes on in other states. I think it's in page 7 of your rebuttal. I don't think you need to look at it. You talk about California and Michigan. In particular I want to talk about California, and you talk about California having adopted these types of lives that -- economic lives in the fashion that they're proposing

in this state, but your reserves also always seem to be referring to cost of service studies. There's a couple of questions I have about California. How does California set rates for GTE, general rates? I'm talking about tariffed rates not depreciation rates.

A. I don't --

Q. Are they on a rate base rate of return approach?

A. I don't believe so.

Q. You don't believe so?

A. I think they're in an alternative form.

Q. So the approval of these depreciation methodology was basically for the use in the cost of service studies, setting rates for what type of services?

A. It was in what they call an ONAD docket, which I don't recall what it was, but it was basically with a TE/TSLRIC kind of studies, and they approved these overlooking economic lives for the use in those cost studies. They requested that they would use them.

Q. The adoption of these depreciation rates, then, in California do not affect the general rates that are paid for by the residential class customers in the state of California as directly served by GTE?

A. I can't answer that directly, but we do have a set of depreciation rates that are used for the rate base, and they are -- they're not the same as the ones used for the cost studies. As a matter of fact, the lives are a bit -- a little bit longer and we just had a filing to bring them to the same as they're used in the cost studies. It hasn't been approved -- been ordered.

Q. You also referred to Michigan. Do you know how Michigan sets tariff rates?

A. We are not -- depreciation rates are not regulated by state of Michigan. And this was in reference to a staff recommendation that the forward-looking lives recommended by GTE be used in their cost studies.

Q. But are their general rates in their tariffs to the residential customers set based on these type of depreciation lives or are they based on some other methodology?

A. It would be -- if we wanted to increase the rates in Michigan we would simply -- we could simply increase them and any increase that we would recommend would be based on these lives because we are using them for our regulatory books in Michigan.

Q. I have a question. You refer to -- I guess

it's someplace out in 17 through 23 of your testimony. I got a note here in between those two pages about left and right modal curves. We had questions here about what square curves were and other things. Just what's the difference between a left and right modal curve and how does that impact -- well, I think I could understand how it impacts, but I just want to make sure I know what left and right modal curves are.

A. The left and right modal curves refer to a retirement dispersion. A bell-shaped curve would be symmetrical, and if you have retirements that occur at infancy and for other reasons that would cause the mode to be at a period before the average then that would be a left modal retirement dispersion and then the right modal would be that the mode would be after.

Q. So that's what I thought. So a right modal would look a little bit more like your square curve?

A. It would tend in that direction, yes.

Q. Generally speaking, when I've talked about depreciation we've talked -- and Mr. Vanston's stuff we talked about the wearing out of the property, the physical life of the property, and we also talked obsolescence as being a factor that might create an asset to be retired in an earlier period of time, but your testimony refers to a situation and you give

-- two times you give an example of customer leaving the system -- I guess you would call that abandoning the use or maybe the usefulness of the piece of property -- with no reference to the fact that the piece of property is of itself obsolescent or worn out. So we have a piece of property that the company is no longer used and useful yet you use this as an argument for using faster depreciation yet in every industry I've ever worked with when that happens the situation would be more or less the company has an investment in an asset that is no longer used and useful and they have no ability to recover it unless they can find a way to make sales in the future. I don't quite understand why there's a relationship between the company having a piece of property that has useful life but just has no customers and the depreciation rate that the company wants to have on that asset.

I'm just thinking, if I'm a taxicab company, for example, and I have five taxis in town and now a new company comes in and starts serving and I use 25 percent of my business, I have to retire one of my taxis, I have an asset that's no longer used and useful. Does not mean that the life of that cab before was shorter. It just means that I have an

asset that didn't have the value -- that I didn't have the value in it because I wasn't able to make the sale. Might be because I didn't provide good service. It might be because -- for any number of different reasons and didn't necessarily have to do with the value of my asset and the usefulness of my asset, and I just don't understand the relationship between losing customers to a competitor and -- for that reason not because of obsolescence -- and your depreciation lives. Trying to understand that. I don't make that connection. Can you try to make that connection for me?

A. I believe so. Let me try anyway and I can give you some context of what we're talking about. Here we have -- we're talking about the right level of depreciation expense and we're talking about cap recovery, and we have cap recovery in the regulated sense, since we are rate base regulated, as a component of return of and return on and the depreciation expense we're identifying as a return on, and the return of would be what we were able to earn. Now, since we are regulated it would seem that there was some protection of that, and then with the rules changing, we put plant in because of what we were required to do to serve customers and because the

rules are changing and then that's causing us to lose some usefulness of the equipment.

We're trying to say that because the rules have changed we can't price in the future to recover/ unrecover investment. And there's all those risks out there that would say that because those risks are occurring, because we're going into the future with competition, the risk of recovering the plant that we had under regulation is becoming less and less, and so what we're trying to do is recognize that increased depreciation expense, because of the changing environment today, to be able to achieve that cap recovery into the future, and that is pointing to the fact of why our plant may not be as useful as we go from regulation to not being regulated, and to record or to recognize that there is some reduction in our value because of the uncertain of what the market will let us charge.

JUDGE PRUSIA: Commissioner Gillis, do you have any questions?

COMMISSIONER GILLIS: I have just one.

EXAMINATION

BY COMMISSIONER GILLIS:

Q. Mr. Sovereign, I understand that the theory

that you used to justify shortened lives depends significantly on the assumption that GTE either currently or in the near future faces substantial competition. Is that a correct understanding?

A. Well, we are facing competition, and it's evident that competition is being encouraged and I think those risks are real. They are happening.

Q. Facility-based competition, is that what you are referring to?

A. Facilities-based competition, and also when you think about our wholesaling ourselves, I mean, that's reduced revenues, and that leads to what we're trying to talk about is a proper level of depreciation expense being determined by what happens in the future, what the -- like a cash flow study would indicate. So you have facilities-based competition and you have competition through wholesale where we are faced with reduced revenues.

And so when you look at we're going into the future, we're adding plant to keep our business going and everything is happening, and what you try to do is capture the sum of all those parts to say that what's the economic -- what would a forward-looking cash flow study tell you about what economic depreciation should be and then those things must be

considered, both the facilities-based competition as well as the wholesale.

Q. Are you facing facilities-based competition or wholesale competition in your more remote exchanges?

A. The threat of that is real. I don't know to what extent we are or are not at this point. We hear announcements by the -- one example that comes to mind very quickly is this angel project by AT&T where there's local wireless loops. That would definitely be an alternative to our local loop and at purportedly a cost at much less than what we're providing it for today.

Q. Do you have any current examples of where you're actually facing --

A. In the rural areas? I don't know. Only threats at this point. Well, unless you want to consider the cellular being offered as an alternative. I mean, if the service is bad enough the cellular becomes an alternative.

Q. How about in your residential market anywhere, a current example?

A. Just those. And they're not a current example.

Q. I guess the reason I ask is that the

depreciation rate being requested is for your market as a total, or your lives, I should say, the length of lives for your assets is for your marketed total, and I'm wondering why it's appropriate -- well, let me lead up to this a little more.

Given your theory that competition is a reason for shortened lives and if it is the case that, take the rural exchanges, that there's less threat of competition than in your business customers in the larger urban areas, if it were possible to separate those out, would you say that the lives for plant in your rural areas would be -- economic lives of your plant in the rural areas would be longer than the economic lives in your urban areas?

A. That's a tough question, and I really -- we don't break it out and study it that way.

Q. Just from your theory, the theory of why -- not asking for precise lives, but as I understand your theory of economic lives is that one of the reasons for shortened lives is the threat of competition and you've testified that the threat of competition, is less in a rural exchange than an urban exchange. So, I guess, just following that line of logic it would seem that you would also be saying that the economic lives of your plant in a rural location would be

longer than your economic lives in the more business-focused urban environment. Is that an incorrect or correct assumption?

A. I think that would be an interesting study to see if that were in fact true. There are threats of competition because of some of the announcements of various companies, and if I were going to get into the local business I would go after the more lucrative customers first, of course the business customers, and so is everyone else, and then maybe the rural customers later, and so I think before you can really make that determination, you know, does it cost more to provide service to rural customers than it does to urban, I don't know.

And so when you look at the total picture of what a forward-looking cash flow analysis of just the rural companies with a threat of competition would produce a smaller economic depreciation expense than you would do of looking at the total company. That would be the only way I could think of to really truly assess the answer to your question.

Q. It would take a separate study?

A. I think that you would have to. If you really want to know about what happens, that's basically separating the company into two pieces.

We've talked about that, theorized about it, but it would be very difficult thing to do and no one is really serious about doing it.

JUDGE PRUSIA: I had just a couple of questions.

EXAMINATION

BY JUDGE PRUSIA:

Q. You stated that competition is the reason for shortened lives and that competition is here already, and, as I understand your testimony, you said that your competitors are going to be installing the most advanced technology and that that technology is more cost-efficient than the technology you presently have; is that right?

A. I think there's some question about when it becomes cost-efficient. I think there's some -- that's something to assess, but on the other hand, if you're forward-looking and you're going to put in to serve local markets I think you would look at a more advanced technology than what we have in place today. I mean, when you're going to establish a new business.

Q. I guess where I'm a little confused you seem to be saying competition is already here and you seem also to say you have a window of opportunity --

A. For recovery.

Q. -- to recover the investment, and if competition is really already here then where is the window of opportunity? I mean, how can you compete with these competitors if they can provide service at a lower cost than you can?

A. Well, if you assume that under full -- when everybody is and the market is fully truly competitive that the prices will be set according to what the market will allow us to charge, then at that point if we left a lot of this investment that we have unrecovered, then the opportunity is between the point in time when it starts, and it's in its infancy, and so when we get out to the point that there is full competition, and we haven't recovered that and we've left it on the table then we've lost the opportunity in between the time when it is introduced and it's in its infancy until it's fully implemented.

Q. Do you have any estimate for the amount of time between those two points?

A. We have an economist that tries to predict that and they have various opinions on that. I would sure hate to speculate. My opinion wouldn't be the same as theirs, and they don't agree.

Q. Is there any redirect?

MR. RIGOVIN: We had a short redirect.

JUDGE PRUSIA: Very well, proceed.

REDIRECT EXAMINATION

BY MR. RIGOVIN:

Q. Mr. Sovereign, there's been a lot of talk today about a capital recovery and featured heavily in the cross-examination. I just want to make sure that we're all clear on what you mean by capital recovery, if you could just explain that.

A. Well, capital recovery is classically defined as return of and return on investment, and the depreciation expense is the first component of that return of and return on, and the level of revenues that we have in a given year, will indicate whether we had recovered in that year, but just because your revenues are sufficient this year to recover the recorded depreciation expense doesn't mean, number one, that you have achieved cap recovery now and in the future and it doesn't mean that the rates are set directly today. It simply means that if your financial reporting today was okay it doesn't speak to what's going to happen in the future which is better defined by an assessment of forward-looking cash flows into the future to determine whether the market will

allow you to recover a return, get a return on investment you've made today.

Q. There was also a lot of talk this morning about GTE's plant and whether -- if it's still on the books and still in the rate base whether GTE is necessarily going to achieve capital recovery. Is that true?

A. Just because it's on the books and it's in the rate base there's no guarantee of capital recovery.

Q. Likewise, there was also a lot of talk this morning about whether GTE's revenues were increasing, decreasing, staying the same. What does that tell you from your perspective of capital recovery? What does that tell you about the prospect for GTE of actually achieving capital recovery?

A. The level of revenues, is whether they're increasing or decreasing, don't tell you much about whether you're going to achieve capital recovery because as you go through time you continually add plant and change your investment; customer demand is different. So it doesn't tell you whether you're going to achieve full capital recovery, and it doesn't tell you anything about whether your depreciation expense is correct.

Q. There was also a lot of talk this morning about the use of a mortality analysis and you said that it was irrelevant or largely irrelevant or maybe even totally irrelevant. I can't quite remember. Did you mean that for all accounts of GTE?

A. Traditional mortality analysis works for a lot of the support assets just fine, and we don't have any dispute with the mortality analysis being done for a lot of the support assets, and then proper weight is given to those, a significant weight is given to those, but when we're looking at the accounts that we used to provide service, that's the eight that we're looking at in this proceeding, that very little weight should be given to mortality analysis.

Q. And why is it that very little weight should be given to mortality analysis for those eight service-providing accounts?

A. The emphasis should be on the future, the forward-looking cash flows for the bulk of GTE's investment, and the proper level of depreciation expense for those are better defined by what's going to happen and what they're going to be used for in the future and what the market will allow you to price.

Q. In making your assessment of the economic lives, did you use the best available data to you?

A. Yes.

Q. You also testified this morning that you had at various times concurred with the Commission in setting parameters for depreciation rates. Was there a -- do you recall that?

A. Yes.

Q. How did the fact that there was a regulatory compact affect your decision to concur in those parameters?

A. Through the years, as we've always agreed -- we've asked for rates that are depreciation lives where we think they should be, and then the Commission, they believe they should be at a different place, and so when we concur we're just shifting the timing of the capital recovery from what we really believe it is to the future, and there was some guarantee that when we had a problem we could come back and fix it, but when you look into the future there's no guarantee of our revenue stream and so now -- and then we see even less and less of that when we look into the future, so the market is not going to allow us to price to recover that investment like the regulatory staff would.

Q. Why does GTE no longer have that guarantee from the Commission?

A. The rules have changed because the Commission will no longer be able to control the revenues of GTE in the future. It's going to be dictated by the market.

Q. In answering or in addressing a question involving -- I think it was either a hypothetical or a real example; I wasn't sure -- a 45-year life that was based on a life analysis and a 27-year life that had been prescribed by the Commission, and I think that you had said something to the effect that we had arbitrarily adjusted the lives, and I wasn't sure what you meant by that, if you could comment on that?

A. When we -- we project lives based on what we feel is the best available information of Technology Futures or whatever information is available to us, and the mortality analysis will tell you what those projection lives should be based on that mortality analysis, and then when we talk to the Commission staff they have a different opinion about what the future should be for those, and so we come to some discussion and some agreement and then agree to a life that's set in between. Listening to our comments and listening to what happens or what -- the staff listens to what we have to say and they also have their own opinion and so then we come to some place

where we can decide on a level of depreciation expense to go forward. Because we agree doesn't mean that we feel like we were guaranteed full recovery with those particular lives.

All it meant was we were changing the timing and so there was an adjustment made to the lives taking into account the technological change and competition -- competition was on the horizon. We knew that it was happening so that was one of the inputs that the Commission staff would look at, but basically it was a negotiated point in between what the mortality analysis said and what we believe the lives should be.

Q. Also this morning there was discussion of some back and forth between you and Fatina Franklin at the FCC. Do you recall that correspondence?

A. Yes.

Q. I believe those were marked as Exhibits 29 and 30. Did your conversation with Ms. Franklin in which you testified that she assured you that it would make better sense to wait until after the NOPR, did that happen after those letters?

A. The order is -- the letters are dated correctly and then the discussion with Fatina and Ken Moran happened after the letters, and we were trying

to decide how we were going to make the filing, and we haven't abandoned the idea of making a filing with the FCC. It was just -- it just so happened that the NPRM was expected in February and it's not out yet, so we think that we should actually continue with -- renew our efforts to make a filing so it's possible that we'll try again.

Q. Are there any other further issues that you would like to address from your testimony this morning?

A. No.

MR. RIGOVIN: Thank you.

JUDGE PRUSIA: Is there recross for this witness?

MS. JOHNSTON: No, Your Honor.

JUDGE PRUSIA: Public counsel.

MR. FFITCH: Just one or two, Mr. Sovereign.

RECROSS-EXAMINATION

BY MR. FFITCH:

Q. Isn't it fair to say that the theory being advanced by GTE in this case is based at least in part on the premise that GTE will, as competition develops, will not compete successfully and will lose customers?

A. I hope not, but in order to keep customers we may have to adjust prices. The market is going to be setting the price. I hope we can maintain customer relationships, but in any event the prices -- the market is going to be setting the price, not the Commission, not GTE.

Q. Don't you lose -- isn't the loss of customers really the -- an indication? You would not lose that customer if you were competing successfully; isn't that correct? I mean, that's sort of a definition of a successful competitor, is it not, that you would retain that customer?

A. Yes.

Q. In fact, isn't it fair to say that the result of adopting the GTE proposal is that the company shifts the risk that it won't be able to compete successfully onto the ratepayers in the near term?

A. Not necessarily. I don't think that that's the case. I think by recognizing the proper level of depreciation expense we are minimizing any risk of recovery into the future. I don't believe that we are asking for a rate increase now.

MR. FFITCH: I don't have any further questions.

JUDGE PRUSIA: Mr. Butler.

RECROSS-EXAMINATION

BY MR. BUTLER:

Q. Mr. Sovereign, you mentioned the AT&T project Angel. Do you know how the test of that technology is going?

A. I have no idea.

Q. And you don't know whether in fact they're encountering significant technical problems with that technology?

A. That's pretty typical, isn't it, of any new kind of product, and I anticipate that those technical problems can be worked out just as they were in several other new product introductions.

Q. What basis do you have for your judgment that the technical problems will be worked out?

A. I don't have any basis other than the fact that the idea seems plausible.

Q. Do you know what the capital requirements of deploying that technology ubiquitously throughout GTE territory would be?

A. No.

Q. Do you know what they would be to deploy it throughout the United States?

A. No.

Q. Do you know what the time line requirements would be for making such a deployment?

A. I do not.

MR. BUTLER: That's all I have. Thank you.

JUDGE PRUSIA: Anything further for this witness?

MR. RIGOVIN: Just one question.

REDIRECT EXAMINATION

BY MR. RIGOVIN:

Q. If GTE were put in the position of being unable to compete on a level playing field because of regulatory decisions of this Commission, would it be able to fairly compete for its own customers?

A. If the prices were set where they couldn't price to what the competitors were, or if there were some reason why they were forced to sell -- sell their services at less than what they could recover, then I think that that would be a constraint.

Q. If, for example, GTE were ordered to sell its facilities at below cost, would it be able to compete fairly with the competitors of the state of Washington?

A. If they were forced to sell below cost then

they definitely wouldn't be -- forward-looking cash flows would have to be -- would certainly tell that tale. You would think that -- you know, the first reaction is that you wouldn't have any incentive for facilities-based bypass if they were to be able to purchase services below what their costs would be, and then if there were some technology or some way to provide service that were cheaper that would certainly minimize any chance of recovery, so it seemed to me that any constraint set would definitely -- would definitely prohibit the decisions to be made to recover their investment.

Q. Thank you.

JUDGE PRUSIA: Commissioners, do you have anything further?

COMMISSIONER GILLIS: No.

JUDGE PRUSIA: Thank you, Mr. Sovereign. You may be excused.

Whereupon,

LAWRENCE VANSTON,

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

DIRECT EXAMINATION

BY MR. RIGOVIN:

Q. Good afternoon, Dr. Vanston.

A. Good afternoon.

Q. Could you please state your full name for the record, spelling your last name.

A. Yes. I'm Lawrence K. Vanston, V as in Victor, A N S T O N.

Q. What is your business address, please.

A. 13740 Research Boulevard, Suite C-1, Austin, Texas 78750.

Q. What is your occupation?

A. I'm president of Technologies Futures, Incorporated.

Q. Did you prefile written direct testimony with accompanying exhibits and rebuttal testimony in this case?

A. Yes, sir, I did.

Q. Are there any revisions, corrections, modifications or additions that you would like to make to that testimony?

A. No, sir.

Q. And are those exhibits true and correct to the best of your knowledge?

A. Yes, sir.

Q. Were they prepared either by you or under your direct supervision?

A. Yes.

Q. If I were to ask you the questions set forth in those testimonies, would your answers be the same?

A. Yes, sir.

MR. RIGOVIN: I would ask that Mr. Vanston's testimony be moved into the record and specifically the exhibits are Nos. 4 through 9.

JUDGE PRUSIA: Is there any objection to the admission of Exhibits T-4 and 5, 6, 7, T-8 and 9? Those exhibits are admitted.

(Admitted Exhibits T-4, 5, 6, 7, T-8 and 9.)

MR. RIGOVIN: Your Honor, before we proceed, there was testimony given by Dr. Crew when he was here in response to questions by Commissioner Hemstad, and those raised some issues outside of the direct testimony of Dr. Crew, and in light of our discussion this morning I thought it best to bring it to the bench's attention before we proceeded that Dr. Vanston would like to comment on what Dr. Crew had to say at the outset of his testimony.

JUDGE PRUSIA: Is there any objection to

that --

MS. JOHNSTON: Well, I would object to a speech by Dr. Vanston. If you want to ask what will essentially be redirect questions concerning Dr. Crew's response to Commissioner Hemstad's questions, that would be fine, but I don't want to sit here and listen to a speech.

MR. RIGOVIN: I think it would be narrowly confined to Dr. Crew's observations, which it would probably make sense to do at the outset, but we could also do it at the tail end of, if you had an objection that was sustained.

JUDGE PRUSIA: Proceed and ask him the question.

Q. Dr. Vanston, Dr. Crew testified that your methodology was both theoretically and empirically flawed. Is that true?

A. No, sir, it is not. On the theoretical issue I think what's happened is Dr. Crew got a little bit out of field into the field of technology forecasting, which is my profession and where my training is. The Fisher-Pry model, although it is a simple model, is a very accurate model, one that fits the bill when it comes to technology forecasting. It is true that it doesn't explicitly explain all the

variables that cause a technology to be adopted, but early in the field, actually going back to the '60s, people discovered that time was indeed the explanatory, not the causal but the explanatory, variable for how technology is adopted. And there are a lot of theoretical reasons why that's true, but more importantly that's the observed behavior.

So by using a very small amount of data we can make credible forecasts in technology forecasting that are both -- theoretically correct. In other words, they accurately model the way technology is adopted. Rarely do we have the luxury of the type of data that both Dr. Crew and others would like to have, something we have in economic analyses when we do forecasting but even with that we can make accurate forecasts with these models.

Fisher-Pry model is the correct model for forecasting technology adoption. Sometimes we use extensions of Fisher-Pry for particular instances that are more complicated. Certainly already other S-shaped curves that we use on occasion that aren't exactly the same as Fisher-Pry but the basically S-shaped model for technology adoption takes place over time, is well documented, has been used by both economists and technology forecasters since roughly

1960s. Continued to be taught in college textbooks. They continue to be the basic forecasting model for technology substitution.

On the empirical issue Dr. Crew raised a couple of points. He brought up the issue of -- I'm not sure what the word was but the ability to replicate our research by independent analysts, and I guess I take quite a bit of offense to this issue because we much more than other forecasters go out of our way to document both the data and the approach and our assumptions and the background behind the forecasts. Most of the important forecasts are indeed based on publicly available ARMIS data.

I've gone back and checked one of the instances that was raised in the response to the bench request No. 1 and determined that the TFI interpretation of that data is correct. Anybody can get that ARMIS data and run the same runs that we do for most of these substitutions. It is true that we do use planning data that we obtain from the industry. Generally, not always, but generally two years. The current year, which is really an attempt to come up with a data set that's current because ARMIS usually lags a bit, I am perfectly willing, though -- my feeling of the past has been that it's appropriate to

use that planning data, but I am perfectly willing to drop that planning data and have people including staff run the models without that.

In fact, if I got a data request to run the models without the planning data would have been happy to do that. I don't think it's critical to the result. In other accounts like SONET ARMIS data is just not collected. There's no way to get that data but to ask the companies for it and that's all we've done is ask the companies where they feel they stand with SONET adoption now and where they feel they'll be next year and so forth, and then we aggregate that data and come up with an estimate for the industry.

I guess the other big attack on the empirical basis was the number of data points. Generally what we do is take anywhere from five to 10 data points in time, given the penetration of the new technology, and project that out into the future. And it is true that a statistician or econometrician would like to have many more data points. Technology forecasters like to have more too. The more data points, the more precise your estimates can be; on the other hand those are the data point we have and people have to deal with the information that's given to us the best we can, and that's what technology

forecasting is all about.

We understand that we're not going to be exactly right. We understand that there are confidence intervals where because of the lack of data the real answer could lie, but our goal is to be approximately right, not precisely wrong, and that's what we strive for.

The data -- number of data points issue in my mind is really a red herring. People in business and science and engineering and in all fields make projections about trends based on a small number of data, the adoption of personal computers, the adoption of the Internet, the number of Internet users. Those are all time series data that one could project with a small amount of data, and reasonably we do so.

Dr. Crew went on to -- I think he was challenging the claim that we've been successfully using this methodology and indicated our only success had been an antiquated electromechanical substitution. That is simply not true. We do use the electro-mechanical substitution to illustrate avalanche curves. We have forecast successfully in that area, but much more importantly Technology Futures successfully forecasted the avalanche that's happened in analog ESS switching. That is not an ancient

substitution. That was under controversy as late as '89 or '90. We were forecasting the avalanche. The life indications were decades at that point and it was only after the fact that regulators in general recognized that there was a problem there.

Similarly, we forecasted the continued substitution of fiber feeder from very low levels of penetration. We pioneered the analysis of modular retirements -- modular technology displacement of digital switching. We successfully forecasted that there would be a demand for, among multimedia users, for multimedia computers among home users, and we forecast as early as 1991 a demand for digital services a la the Internet. And finally as early as 1992 -- excuse me 1991 -- we started taking into account the impact of ADSL type technology into our forecasts, formally doing so as early as 1992. In many of the key technologies we've been approximately right, not precisely right, but approximately right in our forecasts.

I guess the last thing I have a problem with Dr. Crew is that there seems to be a bit of a bias here. Dr. Crew's feeling is that depreciation ought to be based on cash flow analysis, and ideally I believe that's true, that depreciation should really

reflect decreasing value of an asset over time, and the best way to do that is to do sequential cash flow analysis. There's implicit criticism that we don't do that in technology forecasting and yet there's an implicit support in Mr. Crew's response to Commissioner Hemstad that staff and Mr. King do do that type of economic analysis. And the fact is they don't. At least if they do we sure can't see it.

So, in fact I would go on to say that if -- I think if Dr. Crew really understood what we're doing in technology forecasting he would see the connection.

MS. JOHNSTON: Excuse me, Dr. Vanston. Your Honor, I'm going to object. I think that this has definitely evolved into a speech. There's no other witness to this proceeding that would be permitted to sit up there and opine endlessly and comment on the testimony filed by other witnesses to this case. There's no reason that this witness cannot be asked these questions on redirect. If Dr. Crew were seated next to me this witness would not be permitted to carry on this way so I have a continuing objection to this.

JUDGE PRUSIA: Do you have much more?

THE WITNESS: I'm almost done. I will finish up in a sentence if you like.

JUDGE PRUSIA: Would you do that, please.

THE WITNESS: Certainly.

A. The technology forecasting methods that we use to a certain extent reflect economic principles that could be reflected in a cash flow, and in fact we've done. They capture the impact on cash flow and valuations to the extent that it's reflected in technology obsolescence. They do not, however, reflect the impacted due to competition from price or loss of marketed share. Now I'm done.

MR. RIGOVIN: Dr. Vanston is available for cross-examination.

JUDGE PRUSIA: Very well. Does staff have cross-examination questions?

MS. JOHNSTON: Yes, I do. Thank you.

CROSS-EXAMINATION

BY MS. JOHNSTON:

Q. Dr. Vanston, do you hold yourself out as a depreciation expert?

A. No, I'm a technology forecaster.

Q. Have you ever had any formal training in depreciation methods and procedures and techniques such as the training offered by Depreciation Programs, Incorporated?

A. No.

Q. Have you heard of Depreciation Programs, Incorporated?

A. Yes.

Q. Have you ever conducted a depreciation study of public utility plant and equipment wherein you examined the life experience of the existing plant?

A. Personally I had not. People on my staff have.

Q. In preparing your testimony, did you study the current assets for GTE Washington? By that I mean levels of investment and retirements and the rate at which they are changing.

A. Not in any detail. I looked at what Mr. King had, what he did.

Q. In your Exhibit 6 -- I believe it is LKV-2 depreciation lives for telecommunications equipment, review and update -- I would like to direct your attention to the page entitled "acknowledgements." I believe it's Roman V. Do you see that?

A. Yes.

Q. Now, there it says that, "This report documents a study by TFI on behalf of the Telecommunications Technology Forecasting Group,

TTFG," and below that statement is a list of TTFG members. That list carries over to the top of the next page. Do you see that?

A. Yes, ma'am.

Q. Has the membership of the TTFG changed any or is it still the same since this publication was published?

A. It's changed just a bit. I believe Frontier Corporation -- I know Frontier Corporation is no longer a member, and I don't believe Bellcore is any more either.

Q. So the members are all local exchange carriers then. Is that true?

A. Yes, that's true.

Q. And there are no interexchange carriers on the board, correct?

A. No, not yet.

Q. And there are no academics on the board; is that correct?

A. If you mean there are university professors or academics who by virtue of them being academics, no.

Q. There are no computer hardware or software manufacturers on the board, are there?

A. The board is made up currently of local

exchange carriers.

Q. Is the research, development, pricing and timing of technological change under the control of TTFG?

A. No. The types of -- the areas for research, be it looking at switching or looking at the impact of cellular PCS competition or looking at new services, that is certainly up to the TTFG board. The conduct of the research is not, though.

Q. Do you deny that it would be useful to have the researchers, developers and manufacturers in new technologies on that board?

A. Well, we certainly consult those folks when we do our studies. And we have those types of people among our clients and also among the delegates to our conferences. They also tend to buy the reports, but the purpose of the TTFG is basically to look at these issues from the perspective of local exchange carriers, and therefore they feel -- putting it this way, in the past have felt it was appropriate that the board be limited to that. Over the last two years the sentiment has been the opposite, that we would attempt to attract more -- a diverse group to the board and to the TTFG and in fact steps have been taken to do that but they haven't been brought to fruition yet.

Q. What steps have been taken?

A. There's a group called the Society of Depreciation Engineers -- excuse me, this is my professional bias -- the SSI of depreciation professionals that a lot of the TTFG board members have affiliations with and there are some -- there have been negotiations and some movements to associate the TTFG with that group to try to put a broader perspective on the methodology in particular that we used. We believe this is extremely useful to all people involved with the depreciation. That the next TTFG meeting will be at the Society of Depreciation Professionals meeting in September, and as I understand it once the final arrangements are put in place TTFG will formally be a part of the Society of Depreciation Professionals. I should say none of that has taken place yet and this all occurred after I put together the studies but certainly as to the direction we're trying to take with the group.

Q. What is the membership of the Society of Depreciation Professionals?

A. Pardon me?

Q. Do you know which members -- who are the members of the Society of Depreciation Professionals?

A. As I understand it, it's individual

memberships, but the people that are there will be either folks from electric power companies, carriers, the consultants to those industries. There's also water and gas, I believe even trains there, and then there are quite a few regulator -- I think mostly regulatory staff people that are on it. The past chairman, for example, was Pat Lee of the Florida staff in depreciation. The chairperson last year was Bill Stout, I believe, who is a consultant, and as I understand it the vice chairman will -- well, I will stop at that.

Q. TFI distinguishes between different types of economic lives, economic lives based on technological substitution and economic lives based on cash flow analysis. Is that true?

A. That is correct.

Q. The life estimates you've proposed in this proceeding are based on the substitution analysis. Is that also correct?

A. In my testimony that is certainly where the emphasis is. Our standard recommendations reflect that technology substitution. I think in fairness one would say that the lives proposed by GTE in this case also rely on that second type of economic lives that include the impact of competition.

Q. Did you perform a cash flow analysis to determine economic lives for GTE?

A. We have not done a specific cash flow analysis for GTE. We have done a cash flow analysis for the industry to focus on specific impacts of competition such as cellular PCS and cable voice.

Q. Can you explain to us how TFI estimated the economic life of plant using the cash flow analysis?

A. With your permission, it comes in two steps. One is you need to understand the cash flow implications of -- which is a way of really measuring loss of economic value which is how the FCC really puts it, need to understand the relationship to that and technology substitution analysis per se, because what we are forecasting when we do a technology substitution is really displacement of old technology by economic superior new technology, and when that displacement occurs, whether it occurs in 2000, 2005 or 2010, it reflects an economic event of a value of that asset going to zero, and so at that point it stops producing cash flows for the company.

So really in effect just doing a substitution analysis is a cash flow analysis under some very limited assumptions like constant revenues or constant net revenues, for example. What we do

with a cash flow analysis as it applies to something like competitive impacts from wireless is that we actually model market share losses as customers move usage from the wire line network to the wireless network. About 50 percent of revenues today come from usage-sensitive charges like long distance access charges or intraLATA long distance charges or coin. Things like that. About 50 percent, so that 50 percent, under the existing regulatory scheme at least, or pricing structure, is at risk without anybody ever taking out their wire line phone, and we try to model that process. When am I going to pick up this phone and make a call as a cellular customer as opposed to picking up my office phone or picking up my other phone (indicating).

We forecast the price trends on per minute charges for this. I'm paying 10 cents a minute, by the way, 15 cents a minute long distance so I'm indifferent when I make a long distance call whether I use this or not (indicating). We try to model that process, try to model how many subscribers there are to PCS and cellular customers. We try to understand their behavior as prices change, what's their behavior going to be in terms of using one or the other. We model all that and come up with a loss of minutes of

use.

And then we also further off in time actually try to model when people actually abandon their wire line service. When do people make the decision the wireless PCS phone is good enough for me I don't need my wire line service any more. And we see that sill coming a decade away, but this loss of usage already has gone. It's hard to measure because overall revenue has been growing due to the stimulation from fax and Internet access and so forth, but underneath the current, even today, dollars are being lost by companies like GTE because of this type of competition (indicating). What we see is eventually the transition as prices come down for wireless service, that the dam is going to burst, the substitution will take over the growth and in about the year 2000, 2001 or so, we'll see the revenues be severe and severely impact wire line companies.

We try to take that all into account in the cash flow analysis by modeling -- in our case we model market share. You can also model it through price losses or both and come up with a cash flow of -- everything else being equal -- of a typical LEC's wire line network, and you take the value of future cash flows in each year, take the difference. That tells

you how much value is lost each year and that comes up, and we actually convolve that with our technology forecasts and come up with a curve that shows a loss of value and from that derive a life statistic. That life statistic is not the physical life of the asset as I think Mr. Crew would have indicated. It is simply a proxy for what you need to plug into the depreciation equation to get the right depreciation expense.

Q. But you did not perform the cash flow analysis in this case, did you?

A. No. For this case in particular it was an industry setting.

Q. I would like to direct your attention now to Exhibit 7 which is LKV-3.

A. I'm sorry, mine aren't marked.

Q. It's attachment 3 to your direct testimony; it is technology forecast for GTE Telephone Operations.

A. Yes.

Q. Are you familiar with this document?

A. Yes. It was prepared by Ray Hodges on my staff almost two years ago, yes.

Q. But you are familiar enough with it and with sponsoring it in the context of this proceeding

to answer questions?

A. Yes, ma'am.

Q. You also have "Transforming the Local Exchange Network"?

A. Yes, ma'am.

Q. Now, in this technology forecast for GTE Telephone Operations, there are a couple of references. I believe I've located at least two, one on page 3 to, quote-unquote, specific forecast for GTE, and on page 8 under data sources said, "GTE-specific data is based on company plans, financial reports and inputs from GTE's planners and engineers." Do you see that?

A. Yes, ma'am.

Q. Is it your testimony today that this is a specific forecast for GTE?

A. It's really a mixture of specific forecasts for GTE and bringing in industry forecasts to help eliminate the overall situation. For example, the industry analysis was done for the bulk of the industry's digital switching which happened to be 5E's and DMS 100, and so the investment breakdown between processors, switch fabrics, line equipment and so forth, in the industry study we used the average investment provided by all companies.

GTE, of course, has a heavy investment in GTD5 switches and so we felt it necessary to economize our forecast for GTE. We needed to explicitly use the investment for GTD5, at least bring it into the picture, and that's what we did, and that's the type of information we got from the GTE engineers.

In other places what we did was look at GTE-specific market types which are -- there are different categories of GTE markets, and try to understand how our industry forecasts would apply to those different type of markets differently. So, for example, in the markets like what GTE has around Redmond where you have your -- where it's a very high growth, large customer base, one would expect that technology substitutions to perhaps take place faster than in their very small rural type markets where the technology substitutions could be expected to go slower. We try to break out our industry forecasts on that basis.

Q. Okay. Thank you.

MS. JOHNSTON: Your Honor, what I am going to attempt to do is direct him to three examples, and I would like to compare this GTE-specific technology forecast with some of the diagrams which appear in Transforming the Local Exchange Network. Now, this

publication was provided in response to staff data request No. 6, and I don't believe it is a part of the record, although it has been referred to many, many times throughout the testimony, oral and written, and so what I would like to do is move this into evidence, and I apologize for only having one copy. Perhaps Dr. Vanston could provide us with additional copies of Transforming the Local Exchange Network.

THE WITNESS: Certainly. Just need to know how many you need. I can't do it now. I only brought one with me.

MS. JOHNSTON: I understand. Would you be willing to provide five additional copies for the bench?

THE WITNESS: Certainly.

JUDGE PRUSIA: Do all the parties have one?

MR. BUTLER: We could use one more. Mr. King has one but we would like one.

JUDGE PRUSIA: Can you provide six copies?

THE WITNESS: Yes, I can probably get that here by tomorrow if that would be okay.

MS. JOHNSTON: That would be great, thank you.

JUDGE PRUSIA: Did you want that marked at this point? I will be marking for identification as

Exhibit No. 33 a book titled Transforming the Local Exchange Network 1994 edition by Lawrence K. Vanston.

(Marked Exhibit 33.)

Q. I would like to first compare this TLEN at page 130, Exhibit 5.26, with page 29 of the GTE-specific paper, Exhibit 19.

A. Yes.

Q. Now, I may be missing something but could you please tell me how they're different?

A. No, they're not the same. We wouldn't have any basis to make a separate GTE forecast this early on in the substitution for ATM, so --

Q. So they are identical?

A. Oh, yes, ma'am.

Q. Now, could you turn to page 77 of the TLEN book, Exhibit 3.26, and page 10 of the GTE-specific, Exhibit 4. Do you have both of those before you?

A. Yes.

Q. Now, other than dropping the first year how are these two exhibits different from one another?

A. These are the same also. We did not do interoffice forecast for GTE.

Q. Could you please turn to page 81 of the TLEN book, Exhibit 3.30; on page 16 of the GTE-specific paper, Exhibit 9. Do you have both of

those before you?

A. Yes.

Q. And again, other than dropping the first year are there any other differences?

MR. BUTLER: You mean Exhibit 9 or Exhibit 7?

MR. FFITCH: Exhibit 7.

MS. JOHNSTON: No, it's Exhibit 9.

MR. BUTLER: Of Exhibit 7.

MS. JOHNSTON: Mr. Butler, you're confusing me.

Q. Do you have both of those before you?

A. Yes, ma'am.

Q. And again, with the exception of dropping the first year, are there any differences between these two?

A. Yes. In this case there are some differences.

Q. Could you please tell me what they are?

A. The three scenarios, early, middle and late, that we developed for the industry, are the same in both tables except, as you can see at the bottom of the table on page 16, we apply different scenarios to different GTE market segments. So, for example, the early scenario we applied to those segments that are

like the Seattle area segments that GTE has here, whereas the late scenario that has fiber being adopted later we applied to GTE's more rural segments, and then the middle scenario we applied to their more of an average type of market, and then we took a percentage weighting of GTE's markets across the country and weighed it in three scenarios to come up with a composite ARL of 9.7 as opposed to the 10.2 that we would say for the middle scenario for the industry.

Q. Now, you were just referring to GTE's system as a whole, all 28 states?

A. Yes, ma'am. Those percentages would be different for Washington; for example, market segment in Washington I believe is 58 percent as opposed to 51 percent for the GTE as a whole. That would tend to make Washington a little bit shorter than the GTE average. I think Washington is number three behind Florida and California in terms of being as highly competitive markets.

Q. Can you point to any GTE Washington-specific data in this GTE-specific paper?

A. Only to the -- no. Only to the extent that you can assign the market segments that we identify in the paper of GTE's overall market segments to

Washington. There would be nothing that would be Washington-specific.

MS. JOHNSTON: Your Honor, I move the admission of -- I'm sorry, I've forgotten if this has been marked.

JUDGE PRUSIA: Yes, Exhibit 33. Any objection to the admission of what has been marked as Exhibit 33? That is admitted.

(Admitted Exhibit 33.)

Q. Now, Dr. Vanston, I just have a couple of more questions concerning your response to bench request No. 1. Do you have that before you?

A. Yes, I do.

JUDGE PRUSIA: Referring to Exhibit 26.

MS. JOHNSTON: Yes.

Q. Like to direct your attention to page 3, please. Under the heading "Response to Part 1" there's a subheading "The Fisher-Pry Parameters." Do you see that?

A. Yes, I do.

Q. I believe it's the third sentence down that begins, "In the example `B' is 0.309 which implies it will take about 30 years for the new technology, fiber feeder in this case, to go from 1 percent to 99 percent substitution." Do you see that?

A. Yeah, I see that.

Q. I just need to try to understand what you mean by this. Does this mean that this B coefficient if multiplied by 100 will always yield the number of years it would take to go from 1 percent penetration or substitution to 99 percent penetration?

A. If it did that would be a surprise to me. I think that's a coincidence.

Q. Then what did you mean when you used the word "implies" in that particular sentence?

A. Well, if this substitution continued to completion, which in my mind means roughly 99 percent substitution, then from the time the substitution started back in the mid '80s to the time it was complete in 2015 it would take about 30 years. A different B would give you a different value of that time frame. So, for example, if B was bigger, because it rates faster, the substitution would take place in 25 or 20 years. If it was lower the substitution might not be complete until 2020 or 2025.

Q. And then in the following sentence you state, "The value for `A' is 2,000.56 which in the Fisher-Pry model" -- here's this word again -- "implies that 50 percent substitution occur about halfway into the year 2001." Do you see that?

A. Yes.
Q. Now, is it not true that A, the A value, will equal the midpoint?
A. That is correct. I mean, by definition the way the Fisher-Pry model is formulated, A is equal to the midpoint or 50 percent point and it comes out as an output of the regression.
Q. And that always holds true?
A. Yes. With the Fisher-Pry model 50 percent is always the A value. So if the A value came out to be 2010, 50 percent point would be 2010 also.
Q. Now, just so I'm sure I understand this, did you testify that the .309 was just a coincidence?
A. That you multiply that by -- well, 3 percent by 10 and get 30, yes, I believe that's a coincidence.

MS. JOHNSTON: Thank you. That's all I have.

JUDGE PRUSIA: Mr. ffitch, do you have cross-examination for this witness?

MR. FFITCH: I do.

CROSS-EXAMINATION

BY MR. FFITCH:

Q. Afternoon, Dr. Vanston. My name is Simon

ffitch appearing for public counsel this afternoon. This is not your first appearance before this Commission, as I understand it; is that correct?

A. That is correct.

Q. And I am looking at page 6 of Exhibit 5 which is your LKV-1, your background information, and that exhibit shows that you appeared in docket UT-940641 involving U S WEST's depreciation?

A. I had a very brief appearance in that hearing.

Q. Was your testimony in that docket essentially the same as it is here?

A. Again, my testimony in that docket was very brief. I honestly don't even -- I think my testimony is quite a bit different although it could be substantially -- have parts substantially in common but it was certainly -- this is in no way a copy of the testimony we provided there. We may, for example, have submitted these studies into the record in that case.

Q. Well, that was going to be my next question. Didn't you in fact in that proceeding rely on the same 1994 study, the Transforming the Local Exchange study, that you've just been reviewing? And I believe it's been marked as Exhibit 33, you relied

on that study --

A. Yes, I believe that's correct.

Q. -- in the previous case, did you not? It's true, is it not, that the Commission did not accept the recommendations which you made in the U S WEST docket?

A. That is correct. It was a full blown rate case, if I recall. I was brought in after depreciation had already gotten to be a dirty word, and I believe the Commission accepted Mr. Spinks's opinions about Fisher-Pry there; that, in fact, I believe after remanded back to the Commission they even adopted Mr. Spinks's words verbatim in the case. So, yes, I would think your characterization is correct.

Q. I also see referring again to your Exhibit 5, that you have testified also in Oregon, in New York, Massachusetts and New Hampshire?

A. Among other places.

MR. FFITCH: May I approach the witness, Your Honor?

JUDGE PRUSIA: Yes.

MR. FFITCH: Before I do that I just wanted to show counsel.

Q. I'm going to refer first to the Oregon

proceeding. I'm going to hand you a copy of the Commission's order in docket UM 767. That's the Oregon Public Utility Commission's order in that proceeding, and ask you whether the Commission accepted your recommendations in that docket?

A. Actually the Commission in that case accepted staff witness Sterling's recommendations. Basically accepted the Technology Futures forecasts but then made some adjustments for what we call retirement lag, about a two-year lag there, some further adjustment for it being U S WEST as opposed to the industry. So we ended up for at least the major cable accounts adding about four years to my forecasts. So from a depreciation perspective under that type of rate of return depreciation and being Oregon-specific they, you know, in a sense accepted the staff recommendation to use my forecast with those adjustments.

Q. Could you refer to the New York decision, and I will hand you that now, and I will ask you the same question. Again, this is an excerpt, and that's just for your reference, but do you recall whether or not the New York Commission accepted your recommended service lives?

A. That was a part of an interconnect

proceeding in front of a hearing examiner. In that case they determined that the staff had done a forward-looking analysis I think within the previous year and determined to use those recommendations instead of mine for costing purposes. Pennsylvania, on the other hand, took our recommendation. So win some, lose some.

Q. In summary, New York did not accept your recommendations in that proceeding?

A. No. Like I said, win some, lose some.

Q. Same question with regard to Massachusetts. I'm handing you a copy of the Massachusetts order. In that case, did the Commission accept your recommendations? Excuse me. In that case, it's the Department of Public Utilities to be more precise.

A. Again, it was an arbitrator that made a recommendation to use -- I believe there they determined that to use the FCC lives and I believe the Commission accepted the arbitrator's request there.

Q. Finally, with regard to the New Hampshire decision I will hand you a copy --

A. I'm sorry, that was another cost proceeding, by the way.

Q. And I'm handing you an Internet version of the New Hampshire decision, which is rather lengthy,

and I tapped the relevant portion again, but again, did the New Hampshire Commission accept your recommended lives in that proceeding?

A. Again, this was an arbitrator. The hearings were really more of a circus. They weren't even keeping a record of it. It was kind of like a town debate. I just -- my feeling was that they just didn't get it, but there's no way to ever know that because there's no record, but you're right. I believe the examiner fell for the arguments that King Majoros were making there.

Q. Just to clarify, referring you back to that New Hampshire, that is a Commission decision, is it not? If you will take a look at it. It's not an arbitrator's decision?

A. The arbitrator makes a recommendation and the Commission generally passes on that.

MR. FFITCH: I'm going to ask that the Commission take official notice of these four decisions. Be happy to provide complete copies of the decisions for the record. And I can also read the citations into the record if you need me to do that at this time or prepare a written request with the designated docket sometime before the adjournment of the hearing.

JUDGE PRUSIA: I was wondering for the convenience of the parties if we might just make those exhibits, and so we would have them all together in the same record. They're not testimony but they're --

MR. FFITCH: Well, we would have no objection to that, Your Honor, except for the fact that we don't have -- in every case I don't believe we have a complete copy in the hearing room. We could obtain those and substitute them if they were given exhibit numbers.

JUDGE PRUSIA: Very well.

MS. JOHNSTON: I was just going to suggest that perhaps this is more appropriate for briefing and I'm not at all certain that official notice need to be taken because these Commission decisions of other commissions across the country can serve as persuasive authority in any event.

JUDGE PRUSIA: Right. They don't have to be made as exhibits, but sometimes I think it's more convenient to have them be given exhibit numbers and that way they're all together for the convenience of the parties.

MS. JOHNSTON: That's fine. And then we can add another decision from West Virginia to that.

THE WITNESS: We could also add some from

Pennsylvania and hopefully some other decisions will come later.

JUDGE PRUSIA: So you have four of them?

MR. FFITCH: I have four decisions, yes, Your Honor.

JUDGE PRUSIA: That will be Exhibits 34, 35, 36 and 37 and the first one you referred to was?

MR. FFITCH: The Massachusetts decision. I don't know how much detail you want at the moment. Just the state or --

JUDGE PRUSIA: Yes. And the body that --

MR. FFITCH: The decision of the Massachusetts Department of Public Utilities, and that would be 34; is that correct?

JUDGE PRUSIA: Yes.

MR. FFITCH: The next decision is that of the State of New York Public Service Commission, Exhibit 35.

JUDGE PRUSIA: That will be Exhibit 35. Next, 36.

MR. FFITCH: 36 is the decision of the Oregon Public Utility Commission.

JUDGE PRUSIA: And Exhibit 37.

MR. FFITCH: Decision of the New Hampshire Public Utilities Commission.

(Marked Exhibits 34 - 37.)

JUDGE PRUSIA: And you said that some of those were not complete, some copies that you have?

MR. FFITCH: That's correct. For the assistance of the witness I had excerpts with the additional portions for his reference. We could provide complete copies of those decisions shortly. We may have -- I've got to check our materials here. We may have them on hand and if not we can plan for Your Honor quickly.

JUDGE PRUSIA: I was just going to ask, is there any party who would object to just having the additional portions included or do you want the entire decision?

MR. RIGOVIN: I think the entire decision ought to be in there.

JUDGE PRUSIA: All right. Then if you could provide the entire decision for all of those.

MR. FFITCH: We will do that, Your Honor.

JUDGE PRUSIA: And provide a copy for everyone.

MR. FFITCH: Did you wish to add the West Virginia decision to that list Ms. Johnston had mentioned?

MS. JOHNSTON: I'm not at all certain it

needs to be added to the list. I will just append it to my closing brief if I think it may be persuasive.

MR. FFITCH: Your Honor, I'm going to assume that -- do I need to move the admission of those, or my request for official notice got transformed into marking of exhibits so I just want to clarify the state of the record on those four items. If necessary I will move their admission or in the alternative ask for official notice.

JUDGE PRUSIA: Well, they will be made part of the record, but I want an understanding that these are basically for the convenience of the parties to have them in the record and that they're not testimony in this proceeding.

MR. RIGOVIN: That's right.

MR. FFITCH: Very well.

(Admitted Exhibits 34 - 37.)

JUDGE PRUSIA: We'll take a brief recess.

(Recess.)

JUDGE PRUSIA: We're back on the record after a short afternoon break. We're continuing with the cross-examination of Dr. Vanston by public counsel.

Q. Now, Dr. Vanston, I would like to refer you to your rebuttal testimony, which has been marked as

Exhibit 8, LKV-R, and specifically to page 7 at line 11, beginning at line 11 and essentially in that response you criticize Mr. King for having substituted booked retirement into the Fisher-Pry substitution model. Am I correct that you contend that you have only forecast substitutions and not retirements in your approach?

A. That is correct. That's the proper thing to do.

Q. Do you have a copy of Exhibit 22, correct, Exhibit 22 of Mr. King handy?

A. Is that the one labeled attachment 8?

Q. Attachment 8, that's correct.

A. Are those two pages all you're interested in or do I need to get all of Mr. King's testimony?

Q. I believe the first two pages is all it's going to require.

A. Of the corrections? Are you interested --

Q. You should have the whole exhibit there.

A. I will need to get that if you don't mind. Now, this is King rebuttal?

Q. It's CWK-8, attachment 8. It's been marked as Exhibit 22.

MR. RIGOVIN: It's direct.

A. Mine hasn't been marked so I have no idea

what we're referring to here.

Q. It's Exhibit 8 to Mr. King's direct testimony, attachment 8 it says on the exhibit. It also says CWK-8.

A. I have it now.

Q. Do you have that now?

A. Yes, sir, I do.

Q. Could you please turn to page 1 at the top of the page and you see there a column or a heading which says "Interoffice." Is that correct?

A. Correct.

Q. And the first column is a set of percentages, the second column a set of dollars or is headed "dollars surviving." The third column is the retirements, that's correct?

A. Well, it's mislabeled, but the only column that's correct is the one labeled "interoffice" from my study. That's the percentage technology displacement in terms of circuits.

Q. I guess I'm just asking to follow through on what the exhibit says. That's an accurate description of it, is it not, three columns, interoffice surviving and 1993 investment?

A. Except the word "TFI" should not be in the label of those second and third columns.

Q. Well, these are the calculations you object to, are they not?

A. I don't object to the calculations but the way they're used.

Q. The reference for the percentage column is found in the Exhibit 3.26 from your '94 study, which has been marked as Exhibit 33, and that exhibit is found on page 5 of this same Exhibit of Mr. King. I'm sorry, it's a little confusing to follow the trail, but the same exhibit that we're talking about, but if you leaf further in you will find page 5 a copy of Exhibit 3.26 from the '94 study. Do you recognize this page?

A. Yes, sir, I do.

Q. And what's the heading of the second column of Exhibit 3.26?

A. It says "percentage of 1993 investment survival."

Q. Could you please verify that the numbers under this heading match those on page 1 of Mr. King's attachment 8?

A. Yes. I follow that. I need to look at the correct one. I'm sorry. Yes, they matched under the corrected version.

Q. What would account for the difference

between the percent surviving in one year and the percent surviving in the next year?

A. In the construct of the TFI forecasts it would be the percentage loss of the installed base by the new technology -- excuse me, by the old technology at the expense of the new technology.

Q. Isn't that nothing more than a retirement of plant?

A. Absolutely not.

Q. Are you saying there's a difference between the percent of investment surviving and the retirement of investment from one year to the next?

A. The way we use the terminology percentage of investment surviving in the '94 report was investment in the sense of each circuit, say an interoffice facility being -- as tracking the usage of that circuit and saying and tying that -- the reason the word "investment" is in there is simply because one would attach to each circuit, say in a cable, a certain part of the investment. That certainly wouldn't be equivalent of what we would expect to be an accounting retirement because you retire cables as a retired asset not by circuit. And we forecast circuits in use.

Q. Is it your belief that during the years

'94, '95 and '96 -- 1994, et cetera -- GTE had interoffice copper in its investment base that was not used and useful in the production of telephone service?

A. I think there would be many circuits within cables that were not being used because they had been displaced by fiber, and since in the traditional regulatory accounting you retire cables instead of circuits, which is what we forecast, then there would be many instances of that.

Q. So did GTE charge depreciation on that unused or not useful plant during those years?

A. I have no idea what their procedures were there.

Q. Do you know if that depreciation for that unused or not useful plant was included in the revenue requirement charged to the ratepayers of GTE?

A. I don't know, but I think you have to understand, though, that we're filing regulatory accounting procedures that require the retirement of the complete cable as the retirement unit. So if you have 100 pair of cable and two circuits are being used in it, then I would say that should be 98 percent technology substituted for obsolescence whereas in a regulatory accounting base it's still there and can't

be retired until those last two circuits come off. I forecast that you have two circuits left on there and not used any more, but that's not what is measured by retirement. Retirements measure something else. In fact that's the retirement lag that I speak of.

Q. Have you testified in this proceeding that in some cases at least plant that's no longer surviving as interoffice plant has been reassigned to other applications such as distribution cable, for example?

A. I would be very surprised to see interoffice used for distribution cable. There is some evidence mostly -- most of it I don't know as much from studies but from what I've heard around the industry for years is that some of it is indeed reused as feeder cable. You know, the interoffice routes are often parallel with feeder route, and so it stands to reason that there would be some facilities available for feeder from interoffice. I would certainly not expect that to be the case for distribution which tends to fan out more to the customers not just be over routes between offices.

Q. How if at all have you adjusted the feeder and distribution lives to recognize that a portion of those categories is plant transferred from interoffice

applications?

A. Our forecast being technology forecast that looked at the substitution of fiber for copper in the interoffice feeder and distribution networks separately, we did not make any account for reuse in another part of the network. I don't feel -- from a technology forecasting point of view I don't think the reuse is significant enough to really change the results much.

From a retirement point of view it's obviously had a tremendous impact of not causing those cable retirements that one would expect from if retirements did not lag usage. You can't be 90 or 95 percent -- you can't have 90 or 95 percent of your circuits on fiber and not see very many retirements. You haven't seen very many retirements. Certainly all of that cable that used to be serving interoffice is not being used for feeder or distribution now. Maybe a small amount.

Q. Have you had any data measure the decline in utilization of the interoffice plant in this proceeding?

A. Generally for interoffice what we use is two of the data sets that the FCC requires the telcos to provide under ARMIS.

Q. Is that in the record somewhere in this proceeding that you can direct us to in your exhibits?

A. Yes, I believe so. It may take me a minute to get the reference but we have to do that. This is for interoffice. Yes. Page 47 of the Transforming the Local Exchange Network says year end -- year end -- footnote 4, "Year end 1993 ARMIS data reported to the FCC, circuit in use is defined as the equivalent of a voice frequency circuit or, in digital terms, 64 kilobits per second. Thus 1.544 megabits per second line would count as 24 circuits. The FCC ARMIS data only reports circuits for bay span and all carrier and digital carrier. Digital carrier links are reported for copper, radio and fiber.

"We obtained the fiber percentage of circuits by multiplying the digital circuits by the fraction of carrier links that are on fiber. This is not a perfect measure, since some circuits can be carried on a combination of fiber and metallic carrier links. However, it provides a reasonable approximation of the fiber deployment in the interoffice plant."

And then there's another footnote 5 that discusses our use of planning data and some historical pre-1990 data from the TFI files.

Q. It's your testimony that that constitutes data established in declining utilization of that plant?

A. It establishes declining utilization of that plant in the interoffice environment.

MR. FFITCH: Thank you, Dr. Vanston. Those are all my questions.

JUDGE PRUSIA: Mr. Butler.

CROSS-EXAMINATION

BY MR. BUTLER:

Q. Dr. Vanston, could you please turn to Exhibit 2 which is attached to Mr. Sovereign's testimony. It is the petition filed by GTE in this case.

A. This was Exhibit A?

Q. Yes, correct. It's marked as Exhibit A. Turn to page 6 of that. The very last sentence of that page states that GTE is adopting economic life of 15 years and an average remaining life of six years. Am I correct that that reference is to metallic cable?

A. Yes.

Q. Is the source of these numbers page 33 of Exhibit 6, your Exhibit LKV-2?

A. Which is Exhibit 6 again?

Q. LKV-2.

A. I'm sorry to be such a dummy, but can you give me a reference, reference what it is and not what the number is.

Q. The '95 study, page 33 of Exhibit 6.

A. From now on I'm going to call that, that's LKV --

Q. It's entitled Exhibit 14.

A. Yes.

Q. Now, on page 33 in that table you show a range of 14 to 16 years for metallic cable and you describe this as metallic cable averaged. By that do you mean the average of the three types of cable listed in the table, interoffice, feeder and distribution?

A. That's correct.

Q. Is this a weighted average that recognizes the different occurrence of interoffice feeder and distribution cable?

A. Yes, indeed.

Q. Are the weightings those that are shown on page XV of Exhibit ES.4 of the executive summary of your 1994 study? That's Exhibit 33, I believe.

A. Let me take one minute to cross-reference something else.

Q. Sure.

A. I'm having a hard time doing these calculations in my head very quickly, but I believe the weighting was 5 percent for interoffice, so if 1.2 divided by 16. -- excuse me. I believe the weightings we used were 5 percent for interoffice and 47 and a half percent for distribution and feeder.

Q. Can you tell me where those weightings are set forth in the studies that you've produced in this testimony if they aren't those that are shown on page XV, Exhibit ES.4 of Exhibit 33?

A. Pulling the numbers from pages 22 and 23 --

Q. Of?

A. Of the depreciation lives, the 1995 update, and I believe the weighting would correspond to these since they're in a contemporaneous document. Whether there was a change from the 1994 study in those investment weightings, I just don't recall. It looks to me like if you take the -- going back to the 1994 report, if you sum the investment in copper cable it's about -- it's like about 32 percent or so of the total investment of which interoffice is 1 percent. So whatever one into 32, I think that's a little bit less than 5 percent, but it looks like we rounded off to 5 percent of the calculations.

Q. Can you tell me what the source of the weightings that you used is?

A. In the survey that we did for the '94 study of the LECs we asked them to estimate the percentage of their copper cable investment that was in interoffice, feeder and distribution, and this was an average of the responses. To my knowledge, there was not any ARMIS type data that the company submitted for those -- that type of breakdown. So we had to get it from the companies directly.

Q. Would you expect that the weightings of interoffice feeder and distribution would be the same for all companies or that they would be different?

A. I would say they would probably be different for different companies. (Inaudible) things exactly the same.

Q. Have you determined whether the weightings that you used are representative of the cable plant in GTE's Washington operations?

A. I have not specifically made that determination.

Q. Returning to page 33 of the 1995 study, there's a figure of 2.9 years associated with interoffice cable metallic. Do you see that?

A. Yes, sir, I do.

Q. If you could then turn to page 47 of the same document. Is that the source of that 2.9 years?

A. The 2.9 on page 47 is the same as the 2.9 Exhibit 14. The ultimate source for those numbers, though, are the full study of 1994 TLEN reports.

Q. That's Exhibit 33?

A. Am I going to have to mark my copy of Exhibit TLEN to make it Exhibit 33?

Q. Now, on page 47, attachment 3, it states that the average remaining life of 2.9 years applies to plant as of 1-1-95. That's more than two and a half years ago. Is that number still valid today that you would expect that as of, I guess it would be, December of 1997, the remaining life of that plant category would have expired?

A. No, because that's an average life. Some equipment is going to last longer than the average life and have life beyond that 2.9 years.

Q. On average, though, would that time have expired? In other words, is that number still valid?

A. In that particular count, well, it could be. Because of the shape of the survivor curve for all the vintages together it certainly could, even with the passage of time, stay at about that. There would be some adjustment for passage of time but

certainly could stay valid.

Q. Now, you have equated in this table the percent of circuits on copper table -- copper cable, excuse me -- with the percent of 1994 investment surviving. Does this mean that you assume that when a circuit is transferred from copper to fiber cable that the copper cable no longer survives?

A. Again, in the sense that we're measuring it on a -- we're really measuring the technology forecasting as usage and utilization which is much more of an economic concept than retirement. So all we're doing when we say surviving in the TFI studies is talking about whether that circuit is surviving in the sense that it's not been replaced by the new technology fiber.

Q. In the interoffice account?

A. In can in the interoffice account, in fact in all the accounts.

Q. In this table you predict that in 1997, 7.2 percent of interoffice circuits will be on copper cable, that only 37 percent of the 1994 copper interoffice cables will be surviving. Would you tell me what the source of these numbers is?

A. Excuse me. What was the table you're referring me to?

Q. Table 3.1 on page 47.

A. Yeah. At that time we were forecasting that -- I think you chose 1994?

Q. Yes.

A. That of the -- that roughly 7 percent -- by the end of '97 roughly 7 percent of the circuits would be on copper cable, yes.

Q. And can you tell me what the source for that 7.2 percent is?

A. Well, that 7.2 is a forecast for 1997.

Q. That's something that you derive by looking at your Fisher-Pry curve; is that correct?

A. That's correct, yes.

Q. Have you determined whether in fact 7.2 percent of GTE's interoffice circuits in Washington are on copper cables this year?

A. No, I have not.

Q. Am I correct that in the formula which describes the Fisher-Pry curve -- and I don't have the page number handy, page -- someone is telling me page 36. Page 36. That formula that's towards the bottom of the page, do you have that page?

A. Yes, sir, I do.

Q. That the parameters that you referred to, A and B, that A represents the point in time at which

technology reaches 50 percent of the total universe of old and new, and B represents the rate of substitution; is that correct?

A. Generally B is the slope of the linearized curve. We use a different term for the rate of substitution. We transform it mathematically, but it does represent how fast the substitution proceeds, yes, sir. So the higher B is the faster is the substitution.

Q. What was the source of the value you used for A with respect to the copper cable that we've just been discussing here?

A. In the interoffice we did a least squares fit, and the least squares analysis, regression analysis yielded the parameters for A and B that we used.

Q. And did you -- does that mean that you took actual observable data to derive that rate or is this entirely a projection?

A. I guess I'm not sure I understand exactly what you mean.

Q. Was this based upon actual replacements, replacement data?

A. It was based -- the data was the FCC ARMIS data for interoffice links and translated into

circuits, as I indicated when I was quoting from that footnote, supplemented by some data we had in the TFI files and some planning data that was fitted in a linear least squares regression and out came A and B. That was -- actually, going back to my response to the bench request there were really three substitutions that we had to estimate there. One for fiber versus analog carrier, one for fiber versus bay span, and one for fiber versus digital carriers, so we did three separate substitutions and then put them together.

Q. How about for the A value for distribution cable metallic?

A. Now, distribution cable is a completely different story. There are -- while we have seen some substitution in the large business market of fiber for distribution, that's not necessarily indicative of what's going to happen in the residential and small business markets.

So, really we have no data yet in distribution to fit an equation to. We believe, however, since the Fisher-Pry method -- model -- generally forecasts technology substitution that the model is going to be right. So the question is in forecasting the starting point and the rate of

substitution, and we did that through means other than regression, which we will be happy to tell you about, but it's in the report.

Q. Let me ask you to go back to the table on page 33 and like to direct your attention to the feeder cable metallic category. And there you've got values of 7.0 to 7.8. If you could turn to page 48 of the same document, table 3.2. If you could tell me, is that table the source of the figures that are included on page 33?

A. Yes, sir, it is. Again, with the stipulation that the full analysis is in TLEN.

Q. At the bottom of the table 3.2, on page 48, there's an identification of the source of the numbers as Technology Futures. Can you give me a more specific source for those numbers?

A. Certainly. First, let me say we put -- my staff is trained to put source Technology Future, Incorporated on just about every table or figure that's produced because often they're picked up by magazines or in other research reports, and we like people to know that Technology Futures does forecasting, and we want to have credits for our forecasts. It does not really indicate the source of the data, however.

In this particular case, since everything here except for the first year is forecast data, and since they are Technology Futures forecast, then table 3.2 taken individually is indeed data that we forecast. The underlying historical data, of course, come from other sources.

Q. Now, in this case you predict that in 1997, 70 percent of feeders are on metallic cables. Have you verified that this is in fact the case with respect to GTE in Washington?

A. No, I have not.

Q. Back to page 33. The table on page 33 shows the remaining lives for distribution cable as 7.5 to 10.2 years. Is the source of this range table 3.3 on page 49 of this exhibit?

A. Yes, again with the same reference back to TLEN.

Q. Now, again in 1997 this table shows that fiber accounts for 5.2 percent of distribution cable in the early scenario; 0.4 percent in the late scenario; and 2.8 percent in the middle scenario. Which of these three scenarios most closely matches the actual situation for GTE in Washington? If you know.

A. It's too early to tell because the early

data was really for -- mid '90s was really chosen to be an anchor for an overall mid to long-range forecast. Not really intended to be even historical data. We basically assumed that 1 percent adoption would be achieved in a given year and then forecast from that point. So, to -- it would be impossible to say which of the scenarios which are mid to long-range forecasts would apply to a specific -- the industry or specific company at this point based on where we stand today.

Q. Do I take it from that answer that as with some of these other situations that we talked about you have not made a specific examination of GTE's situation in Washington?

A. No, I'm not sure how -- no, we have not.

Q. Can you tell me when this table 3.3 was prepared?

A. Well, it was prepared in 1994. I believe we had similar forecasts that were published elsewhere as early as 1993, perhaps late into the year.

Q. If less than 1.4 percent of all the distribution cables were on copper in 1995, can you tell me how you would know that by 2007, ten years from now, more than half of all the distribution plant would be on fiber even under the slowest of the

scenarios?

A. Again, this was the case where we were not using historical data in fitting the curve to that because we don't have enough data to fit. In fact, we have no data. You can't fit a straight line through no data. You can't fit a straight line through one point, so we had to come up with a different approach.

What we did was try to make some forecasts of what the needs for digital services would be, everything from narrow band, wide band and broad band into the future. So we did separate studies in image transmission, the demand for multimedia, video communications like video conferencing. We looked at -- in fact, we looked at other types of video services. We looked at facsimile transmission. A number of different new services a lot of them which in the end ended up showing up as what we call the Internet now, and made independent forecasts of the demand for those.

And we forecast that there would be a mass market for digital services starting with ISDN and then moving on to 1.5 megabits per second we call wide band that would be offered by ADSL, for example, and then later moving on to broad band services as computer and communications technology matured, which

would get us up into the 40 or 45 megabits per second range, and basically we made those forecasts in terms of number of users or households or access lines, depending on how you want to count it, and then infer based on some relationships between demand for a service and availability as required in the network, we came up with forecasts for where the network needed to be in terms of having narrow band, wide band and broad band digital services in the network.

And then the three scenarios basically or three alternatives for how the telcos could roll out the capability to do that service, the earlier scenario assumed we did all on fiber; the late scenario assumed that you put off adopting fiber until the broad band demand of customers required a technology other than ADSL; the middle scenario assumed a balance mix of ADSL type strategy and a broad band strategy -- excuse me, fiber strategy.

Q. Am I correct that the substitution influences that led to the percentages that are shown on table 3.3 those that are discussed on pages 19 through 22 of your report?

A. Which report?

Q. The same report.

A. Yes. In fact 19 and 21 is probably a much

better explanation of how we got the forecast than I just gave.

Q. Did I understand your testimony to be that in 1994, whenever the report was prepared, that you were basing these forecasts on other forecasts of growth in the demand for use of the Internet?

A. We did not specifically label Internet. We did label -- we did forecast the growth of on line services, which include the Internet. In fact, even today most residences access on line -- the Internet through on line services, and a lot of times when they're talking about using the Internet they're using their America Online or Prodigy or what have you. We did forecast that.

We also forecast our multimedia report, the use of hyper link type multimedia information systems called World Wide Web now. We didn't know what it was called back in '91 and '92 when we did the report but that's what it was. And we forecast the adoption of multimedia computers that many, many home users have acquired. So, yes, I think our forecast fairly captured the dynamics of what actually happened. We just didn't know it was called the Internet.

Q. Could an independent analyst replicate table 3.3 from data in your files or is this the

product of judgment on your part?

A. Well, I think an independent analyst could certainly work through the logic on page 19 through 21, particularly if they had TLEN and the supporting studies referenced in footnote 9.

Q. And they would come up with the same numbers that you did?

A. If they did all the calculations exactly the same then they would.

Q. Would they have to make suggestions about the future that you made?

A. Of course. And if it was a good forecast they would state their assumptions explicitly like we try to do.

Q. Let me ask you a little bit now about switch lives. And if you could turn to page 4 of Exhibit 2. Again that's Exhibit A that's attached to Mr. Sovereign's testimony. Page 4 of that, do you have that?

A. I think so.

Q. And I would like to direct your attention to the last sentence of the first full paragraph on that page. That says, "Utilizing the results of the reference forecasting studies and the other factors mentioned above, GTE proposes an economic life of 10

years and an average remaining life of six years for this category." This is switching category; is that correct?

A. Yes. Digital switching, yes.

Q. Now, these recommendations, do they also come from page 33 of your '95 study?

A. If you're referring to the TFI recommendations that they're referring to, then the answer is yes, I guess.

Q. And that's where you show the digital switching remaining life of 6.3 years and a projection life range of 9 to 11 years; is that correct?

A. Yes, sir.

Q. Does the head of that remaining life column -- shows what remaining lives were as of 1-1-95. Does this mean that as of the present time today GTE's digital switch investment that was installed in 1995 would only have 3.8 years of remaining life?

A. No.

Q. Could you explain to me what this does mean?

A. It says that in the appropriate remaining life, based on the analysis that we did of displacement of modular assets in 1-1-95, was 6.3 years. What it would be two years later would depend

on what type of additions were made since then, and it would depend on the shape of those curves. I certainly can go into detail if you like on a modular by modular basis of what we've seen and what we expect to see.

Q. I'm just trying to understand what this table represents. By looking at this table, would it be fair to conclude that we should expect to see heavy retirements of digital switches coming up in the next few years?

A. Not necessarily. What you expect to see is -- for one thing in the next few years I don't expect to see any retirements of major digital switches. What I expect to see is lots of technology displacement of individual modules, which may or may not show up as retirements on the accounting books, and if they do they certainly would reflect a lag between the time, say, an analog line card was displaced technically and the time it showed up, was taken out of inventory and shown up as retirement.

Q. Have you provided in your testimony or exhibits in this proceeding an estimate of what the average remaining life for switches would be that reflects the substitution of modules that you just discussed?

A. That's what my testimony refers to is that displacement. It does not attempt to reflect booked or accounting retirement. I mean, those will come eventually, but there will be a retirement lag between what I forecast as technology displacement, which is the correct thing to forecast in this case, and what will show up as regulatory booked retirements.

Q. Again, can you explain to me the significance of this 6.3 years as the average remaining life for digital switches that's reflected on page 33. What does that represent?

A. It would be an indicator, an estimated indicator, of an average over the entire switch on an investment weighted basis. What the technological displacement rate would indicate the -- let me start back one step. Technological displacement will show a pattern for each individual model that shows their displacement of old technology by new technology that shows -- so you look at this percentage of -- and I will say surviving on a per modular basis.

Then we weight it to come up with an overall percentage surviving. Perhaps that's easiest seen by referring to page 119 of the TLEN report. And you can see that there's -- for each of the modular categories there's a percentage -- there's a different

-- what we call a survivor curve for each of the modules. And then if you look on page 118, you will see the percentage of the investment for each of those modules and an ARL calculation down to the very last row for each module, and then all we do is just take an investment weighting to come up with the 7 on the TLEN.

Q. Have you determined whether GTE plans to retire any major component of its digital switches during the foreseeable future?

A. I made an engineering type determination of specific retirement plans of GTE switches. Have done that for other companies, including companies in Washington but not for GTE.

Q. If I could ask you to turn to page 30 of your study entitled -- Exhibit 12 is the table at the top of the page 30. This is the source of the 6.3, your figure?

A. Yes.

Q. Can you tell me what the source of the percentage of investment column is?

A. Basically it was the average of some sample switches that different companies around the country had studied. In other words, there had never been any industry-wide data on this type of modularity count of

the ARMIS type, and most companies had not done an exhaustive catalog of their investment in each of these modules across their companies, so different companies had studied individual switches with this approach.

And so we collected a series of I believe it was 5 or 6 of those and basically took a weighted average of the companies. I think it was Bell South, Rochester and NYNEX and then a previous TFI study. We basically took a composite of those to get those percentages.

Q. Have you determined whether this distribution of investment applied to the digital switches of GTE in Washington?

A. No. I think we use a -- I know we use a different distribution than we did the GTE custom study that's in evidence here. I think I refer to that in a question that came up before.

Q. Sorry if I asked you a question that's already been asked. Can you help me understand this table by deciphering the key drivers that are mentioned on Exhibit 12? Would you tell me what those things are?

A. Well, certainly let's start from the top. Processor memory. Here we think of the processor

memory in a switch is basically computer stuff, and just like personal computer equipment goes through life cycles, like we went through the 286 and 386 and 486 and then Pentium, Pentium Pro and then on to the future. Those life cycles tend to be -- to imply an average life of about five years for computer equipment. Well, we have observed the same thing in processor memory in switches. We've gone through generations of processor memories in digital switching. As the requirements go up you need to get more powerful processors and memories. So that's what I mean by life cycles, the key driver there. It's not a particular technology substitution. It's just the ongoing improvement in digital switch and then the requirements placed on it.

Q. The next item, switching fabric life cycle and ATM.

A. That comes from two things. One, we found that a new switching fabric -- and by the way, this is about 5 percent of the investment is introduced about every four years, and we assumed that companies would change out their switching fabric about every two generations, so we came up with a life cycle of eight years. There's also the possibility that when ATM switching is introduced into the main part of the

public network it could be introduced as a switching fabric within existing digital switches which would replace the switching fabric but not replace the rest of the switch.

That's just one scenario of what may happen with ATM. For the most modern of the switching fabrics, in other words, the ones that the companies just install, we assumed that ATM would be the technology of replacement there. So that's how we came up with an eight year ARL.

Q. Under trunk interface, I/O SONET plus two years. Is that interoffice?

A. That would be interoffice SONET. We felt that as the interoffice network became more and more SONET-based, and when switch manufacturers came up with a direct SONET interface to the switch we would see, as SONET was introduced, an adoption of SONET basis trunk interfaces with some type of lag, we assume two years, between the two substitutions.

Q. Ask you to skip down to the bay span interface, DLC, FITL and DIG services?

A. Yes. This certainly is one of the more important ones, 40 percent of the total.

Q. Digital loop carrier, fiber in the loop and digital services, is that what that stands for?

A. Yes, sir.

Q. And the shell ATM architecture. What are you referring to there?

A. We believe that sometime in 2010, say, time frame ATM will have developed to a point where it's economical to switch all types of traffic on ATM switches, including the traffic in the public switched voice network. Part of that is just because as a fraction of total traffic, including fax, and multimedia and Internet traffic, the voice is actually going to be, by that time, a pretty small part, so it would make sense to put the voice on the more powerful ATM switches at that time. We certainly don't see that happening right away or being the primary driver for switch change-outs. We made a forecast of when that would occur, when ATM as a new architecture would replace existing 5E, DMS, GTD5 type switches.

And I believe that forecast is shown -- it's shown in TLEN, but that implied an ARL of the switching entity, if you will, the shell itself, of about 13.13 years or so. So that's where that came from.

MR. BUTLER: I just have a couple more.

Q. If you could turn to page 51, table 3.6. Do you have that?

A. Of page 51, yes, sir, I'm here.
Q. Is that the source of the remaining life numbers that you show on page 30?
A. It should be. Let me make sure. Yes.
Q. Can you tell me where we find the source of the numbers that are obtained on page 51? Would that be in pages 27 through 31 of the report?
A. Again, these are forecasts of the survivor curves which were derived in and explained in TLEN in detail. The summary as provided in summary book is, I believe, pages you referenced.
MR. BUTLER: That's it. I have no further questions.
JUDGE PRUSIA: Be off the record for about a minute.
(Recess.)
JUDGE PRUSIA: Let's be back on the record. Commissioner Gillis, do you have any questions for the witness?

EXAMINATION

BY COMMISSIONER GILLIS:
Q. Just one or two. Doctor, I want to refer you to your table -- this is in the rebuttal testimony. Doesn't have a page number. It's after

page 23, the summary and regression statistics.

A. Yes, sir.

Q. What is the purpose of that table?

A. I believe in his testimony Mr. Crew had -- probably Mr. Spinks, too. I don't remember the sequence. I think it was -- it doesn't matter -- criticized TFI for not reporting regression statistics. And as I understood it, these were the type of regressions statistics that were requested. I felt they weren't particularly necessary, because I felt by looking at the data and my experience as an engineer I could tell that those were significant regressions and why do that. Obvious by looking at it. On the other hand, I also understood that if you're a stickler for detail, as perhaps the other folks had a right to request those numbers.

So I said, okay, I will sit down and print them out. I ran the software over again to report -- to report these particular statistics, and all I did was record them for each of the regressions that we did. It was not to satisfy me; it was to satisfy the other parties that wanted to see these. And the result was, of course, that they were all indeed statistically significant. Just like I knew they would be. But that gave all the parties sufficient

information to determine that for themselves. That was the only purpose in my mind for doing that.

Q. I'm not sure I understand your point. You said as an engineer you knew they were significant just by looking at them. How can you tell if the coefficients are sufficient just by looking at them?

A. They teach you in statistics, for example, the R squared coefficient and you will see a little diagram -- by the way, you can only do this in a simple two-dimensional type regression where you have one independent variable and one dependent variable. In other cases that are more complicated you do need to look at the statistics. But if you want to -- anything that even looks like it lines up in a straight line is going to have a reasonably high R squared statistic. If it lines dead in a straight line like most of the ones that we regressed then you all know that regression coefficient -- excuse me, the R squared is going to be over .9. And --

Q. So by the plot you're saying?

A. I'm sorry, by the plots, looking at them, which then, by the way, plots were published in here, so that was not available to people right away; they had good reason to ask the questions because I had access to the plots. But that's the basis, looking at

the plots I can tell.

Q. The plots on that historical data?

A. In this particular case. You give me any random set of plots, and I can tell you whether it was significant or not. If the scatter was just -- I would ask to do a test just like was done here.

Q. I guess part of the reason I ask -- it's been quite a while since I've taken statistics, but as I recall an OLS type of regression like this with limited degrees of treatment that the test statistics are pretty suspect. Is that something you would agree with?

A. I think that's true, although these tests are somewhat highly significant, that even if you lost some degrees of freedom it would still be okay. I think the other thing we have to realize is this is what we had to work with. The data indicates a straight line trend and this is the best we're going to do. We can't do the things we would like to like boxed ins or so forth because there are simply not enough data points to work with.

And I think another thing we just have to realize is that all of those tests assume you have the right model, and you -- and, of course, the reason you would normally do that is develop confidence

intervals. You look at the confidence intervals of things that line up like this, they're very, very small, and if you took into account the problems you mentioned they're probably still tighter than what the actual uncertainties of these types of forecasts. So we go into battle with what we believe is the right model which is Fisher-Pry. We know a lot about the technology in the markets that we're dealing with, and we do the best with the data that we have. That's the approach I take.

Q. Are these the same underlying equations used in the custom forecast that you did for GTE?

A. As I think rightfully pointed out, the forecasts for the interoffice and feeder fiber and SONET, for that matter I believe for GTE, were identical to the industry studies. We just examined them for reasonableness in GTE in GTE's various markets.

Q. So for the other six equations you did separate regressions for GTE?

A. In none of these did we do a separate regression for GTE.

Q. You used the same regression?

A. That's right.

Q. I guess I'm having trouble tracking, then,

what the difference between your industry-wide study, if I can call it that, and the custom GTE study. You've used the same basic underlining equations. What did you change?

A. The -- three things. One is we changed the weighting for the digital switches of the investments to account for the GTD5 in GTE's switching mix; we distinguished the distribution forecast by GTE's market class, I think I mentioned earlier; and the third is we looked at, in general, at the types of drivers that would apply in GTE's various markets, and determined that they were applicable to GTE as they were to other companies. GTE certainly has different types of territory than a typical RBOC would be. On the other hand, many of the drivers are common to all. Certainly one could, and I don't think it would be a bad idea at all, would be to redo all the regressions for GTE's specifically using GTE data, and certainly could be done using GTE Washington data, but this study certainly didn't do that.

Q. Reason I'm asking this question is I'm trying to get some understanding of the degree of confidence that you have in your GTE-specific information. So I guess, let me ask it this way. I think I understand how you establish statistical

confidence measures around your estimated regression coefficients and et cetera. How do -- was there another statistical process somewhere where you used the different switching mixes and the GTE-specific data that was in the customized report that --

A. No. The main difference was looking at the investment mix. That was the only thing.

Q. But it wasn't a statistical exercise?

A. No, except to -- no, it was not a statistical exercise. Certainly not this kind of statistical exercise.

Q. So the only place you can establish statistical confidence is in the regression equation so the rest is more of a judgment type of an adjustment?

A. Well, it's a little more than that, but certainly the statistical tests apply only to the industry regression that we did. But as I indicated, I wouldn't claim that that gives you a real -- any indication of what the real uncertainty is about this in forecasting the future.

Q. I suppose the bottom line would be, then, you would need to basically assume that the production relationships are the same for the industry as a whole as they are for GTE?

A. Yes, I think so, and I think there's a lot of logic to that. The industry now has the same suppliers. With competition they're going to be driven by the same customer needs and cost structure. They're competing in each other's territories now. Certainly most of the drivers for the new services, including digital and wireless services, Washington the state would be a leader in. Internet access, for example, value of cellular PCS license, all of those things would indicate growth in the market, would indicate that GTE should, particularly in Washington, should be at least with the industry and to the extent they're behind they will need to catch up.

Q. I think you answered several times that you haven't done any particular study to verify one way or another whether that's true?

A. Certainly not a particular study. That would be across the board on all these accounts, and certainly not.

Q. Thank you.

JUDGE PRUSIA: Is there any redirect for this witness, Mr. Rigovin? Please move your microphone a little bit closer.

MR. RIGOVIN: Can I take a one-minute break.

JUDGE PRUSIA: Yes. We'll be off the

record for a minute.

(Recess.)

JUDGE PRUSIA: Let's be back on the record.

MR. RIGOVIN: No further questions.

JUDGE PRUSIA: I assume, then, there's nothing further for this witness.

MR. RIGOVIN: If it's okay I think we can move everything over.

MS. JOHNSTON: You mean they're not prepared?

MR. RIGOVIN: For the convenience of the bench it might make more sense.

JUDGE PRUSIA: Public counsel.

MR. FFITCH: We would concur with the recommendation that we recess and resume in the morning with the remaining witnesses.

JUDGE PRUSIA: Very well, then. We'll recess and reconvene tomorrow morning at 9:00 sharp. We'll be off the record.

(Hearing adjourned at 4:35 p.m.)