

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of the Petition)
of GTE NORTHWEST INCORPORATED) DOCKET NO. UT-961632
For Depreciation Accounting) VOLUME 2
Changes.) PAGES 30 - 72

A hearing in the above matter was held on July 14, 1997, at 9:30 a.m. at 1300 South Evergreen Park Drive Southwest before Commissioners WILLIAM R. GILLIS, RICHARD HEMSTAD and Administrative Law Judge JOHN PRUSIA.

The parties were present as follows:

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

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

GTE NORTHWEST, INC., A. TIMOTHY L. WILLIAMSON and RICHARD POTTER, Attorneys at Law, 1800 41st, Everett, Washington 98201 and JOHN A. ROGOVIN, Attorney at Law, 555 13th Street, Washington, D.C. 20004-1109.

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

Cheryl Hammer, CSR
Court Reporter

I N D E X

WITNESS:	D	C	EXAM
DR. CREW	43	45, 61	63, 68

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JUDGE PRUSIA: This is a prehearing conference in the matter of the petition of GTE Northwest Incorporated for the depreciation accounting changes, it's Docket No. UT-961632.

The purpose of this morning's prehearing conference is to get the exhibits lined up and to get prepared to begin our main proceeding as soon as we're ready. I'll begin by taking appearances, I'll ask each counsel to identify herself or himself and the party you represent and I'll begin with GTE Northwest.

MR. WILLIAMSON: Tim Williamson and Richard Potter, 1800-41st Street, Everett, Washington, 98201, telephone number (425) 261-5005. Would you like the fax number?

JUDGE PRUSIA: I assume we have that.

MR. WILLIAMSON: And we also have
Mr. Rogovin.

MR. ROGOVIN: My name is John Rogovin, R-o-g-o-v-i-n, from the law firm of O'Melvin & Meyers, 555-13th Street Northwest, Washington, DC, appearing on behalf of GTE Northwest, and also with me is Al Sovereign.

JUDGE PRUSIA: And for commission staff?

MS. JOHNSTON: Sally G. Johnston, Assistant Attorney General, appearing on behalf of commission staff. My address is 1400 South Evergreen Park Drive Southwest, Olympia, Washington, 98504.

JUDGE PRUSIA: And for public counsel?

MR. FFITCH: Assistant Attorney General, Simon Ffitch appearing for public counsel, Washington office of attorney general, 900-4 Avenue, Suite 2000, Seattle Washington, 98164.

JUDGE PRUSIA: And for intervener Tracer?

MR. BUTLER: For Tracer, Arthur A. Butler from the law firm of Ater, Wynne, Hewitt, Dason & Skerritt, LLP, address is 601 Union Street, Suite 5450, Seattle, Washington, 98101-2327.

JUDGE PRUSIA: Thank you. Before going on the record I distributed a list of witnesses and prefile testimony and I would ask everyone to take a

look at that and see if that's complete as far as what's been prefiled.

Ms. Johnston has indicated to me that the prefile direct testimony of Michael Crew should be MAC-T, not MAC--1. Are there any other corrections that anyone has noted examine needs to be made?

I assume that Dr. Crew is going to be testifying about some of this testimony and none of it has been admitted. I propose that I mark it all for identification at this point, even though it's not admitted into evidence unless someone else has some other idea of how we might proceed. I think all of you have more experience at these than I do and maybe you have seen how it's handled before.

MS. JOHNSTON: No, I think your suggestion is a good one. I also think it's quite likely that Dr. Crew will be referring to some of the not yet admitted testimony, given that he's testifying first in this proceeding.

JUDGE PRUSIA: Will that be acceptable to everyone then if I mark it for identification?

MR. ROGOVIN: Yes.

JUDGE PRUSIA: Very well, then, I will begin with Mr. Sovereign's testimony. Marked for identification as Exhibit No. T-1 will be the prefiled direct testimony of Allen Sovereign, which is labeled AES-T.

Marked for identification as Exhibit No. 2 will be Exhibit AES-1, which is the petition of GTE.

Marked for identification is Exhibit No. T-3 will be the prefiled rebuttal testimony of Allen E. Sovereign, which is AES-R.

Marked for identification is Exhibit No. T-4 is the prefiled direct testimony of Laurence K. Vanston, LKV-T.

Marked for identification as Exhibit No. 5 is attachment LKV-1, which is the biography of Dr. Vanston.

Marked for identification as Exhibit No. 6 will be the attachment LKV-2.

Maybe I should ask the company, do you think all of these should be marked as separate exhibits or could some of these be together?

MR. WILLIAMSON: Separate is fine.

JUDGE PRUSIA: I'll continue doing this that way then. Exhibit No. 6 is attachment LKV-2, a document entitled Depreciation Lives for Telecommunication Equipment Review and Update.

Marked for identification as Exhibit No. 7 is attachment LKV-3, it's a document entitled Technology Forecast for GTE Telephone Operations.

Marked for identification is Exhibit No. T-8 prefiled rebuttal testimony, it's marked LKV-R.

Marked for identification as Exhibit No. 9 is attachment LKV-R, entitled Summary of Regression Statistics for Forecasts and it continues on.

And we have commission's staff prefiled exhibits marked for identification as Exhibit No. T-10 is the prefiled direct testimony of Thomas L. Spinks, which is marked TLS-Testimony.

Marked for identification as Exhibit No. T-11 is the prefile supplemental direct testimony of Thomas Spinks, which is marked TLS-Supplemental Testimony.

Marked for identification as Exhibit No. 12 is exhibit TLS-1, which is staff recommendations plus current and GTE proposed parameters.

Marked for identification is Exhibit No. 13 is exhibit TLS-2, current life indication.

Now Dr. Crew, marked for identification as Exhibit No. T-14 is the prefiled direct testimony of Michael A. Crew, which the staff has marked as MAC-T.

Marked for identification as Exhibit No. 15 is the curriculum vitae of Michael A Crew, exhibit MAC-1.

Ms. Johnston, do you know if Mr. Crew will be referring to Mr. King's testimony, does anyone believe he will be? If he won't be we might leave that testimony for later then.

MS. JOHNSTON: No, Your Honor, I would refer that it be marked.

JUDGE PRUSIA: Very well, marked for identification as Exhibit No. T-16 will be the prefile direct testimony of Charles W. King, CWK-T.

Marked for identification as Exhibit No. 17 is attachment CWK-1, experience of Charles W. King.

Marked for identification as Exhibit No. 18 is the exhibit CWK-2, experience related to depreciation.

Would it be all right if we combine those as one exhibit, just make both of those 17 since that's all experience?

MR. BUTLER: Sure, you might want to combine 1, 2 and 3.

JUDGE PRUSIA: We'll combine those together as Exhibit No. 17, all relating to the experience of Charles King. That's attachment CWK-1, attachment CWK-2 and CWK-3 all marked for identification as Exhibit No. 17.

Marked for identification as Exhibit No. 18 will be attachment CWK-4, GTE Northwest telephone plant related rates.

Marked for identification as Exhibit No. 19 is attachment CWK-5, GTE Washington digital switching plant related rates.

Marked for identification as Exhibit No. 20 is attachment CWK-6, allocation of year end 1993 balance in the digital switching account among six elements.

Marked for identification as Exhibit No. 21 is attachment CWK-7, which is a series of charts relating to metallic cable accounts.

And marked for identification as Exhibit No. 22 is attachment CWK-8, which is a comparison of TFI's metallic cable forecast to GTE actual retirements and Mr. King's analysis of assumed retirements.

Does anyone have any corrections with respect to the description of those or anything of that sort?

MR. ROGOVIN: No.

JUDGE PRUSIA: Are there any exhibits other than the prefiled exhibits that any parties anticipated introducing through this witness on cross this morning?

MR. ROGOVIN: We would like to use two exhibits and would ask that they be marked and subject to our moving them into evidence later.

JUDGE PRUSIA: Do you have copies of those exhibits for the parties or have you distributed those?

MR. ROGOVIN: I have not.

JUDGE PRUSIA: Very well, go ahead and distribute them now then. Why don't you do that one by one so we can mark them and I'll have you identify what they are.

MR. ROGOVIN: The first exhibit is an article written by Dr. Crew and Paul Kleindorfer and it is entitled Economic Depreciation and the Regulated Firm under Competition and Technological Change.

JUDGE PRUSIA: Very well, that will be marked for identification as Exhibit No. 23 and we'll need six copies up here.

MR. ROGOVIN: Shall I give you the second one or do you want to distribute that one first?

JUDGE PRUSIA: Go ahead and distribute that one first then the next one.

MR. ROGOVIN: The next exhibit is an article entitled Incentive Regulation, Capital Recovery and Technological Change in Public Utilities authored by Dr. Crew and a Paul Kleindorfer.

JUDGE PRUSIA: That article will be marked for identification as Exhibit No. 24.

Did you have additional exhibits?

MR. ROGOVIN: I don't.

JUDGE PRUSIA: Do the public counsel of Tracer have any exhibits they anticipated introducing to this witness?

MR. BUTLER: No, Your Honor.

JUDGE PRUSIA: And did staff have any that you anticipated introducing on redirect?

MS. JOHNSTON: I have one, but it depends on how cross goes.

JUDGE PRUSIA: All right. These exhibits are not yet admitted and I'll let you offer them at the appropriate time with the witness.

MR. ROGOVIN: Okay.

JUDGE PRUSIA: How about time estimates, do you have any idea?

MR. ROGOVIN: I plan on being quite brief and I don't think that we would go more than 30 minutes, 40 minutes at the most.

JUDGE PRUSIA: Will you be the only counsel cross-examining this witness?

MR. ROGOVIN: For GTE, yes.

JUDGE PRUSIA: And how about public counsel and Tracer?

MR. FITCH: Your Honor, we would expect that our cross would be very brief, if we have any today.

JUDGE PRUSIA: Well, it sounds like we can get done this morning then unless there's some surprise. Are there any other preliminary matters that we need to take up before the commissioners come in to hear the testimony?

MS. JOHNSTON: I don't believe so.

JUDGE PRUSIA: Let the record reflect there is no affirmative response. It appears then that we're ready to go off the record and have the commissioners come in so we can proceed with the cross of Dr. Crew, so we'll be off the record briefly.

(Marked Exhibits T-1, 2, T-3, T-4, 5 - 7, T-8, 9, T-10, T-11, 12, 13, T-14, 15, T-16, 17 - 25.)

(Short recess.)

JUDGE PRUSIA: Let's be on the record. The hearing will now come to order, the Washington Utilities and Transportation Commission is set for hearing at this time and please upon due and proper notice to all interested parties, a hearing and Docket No. UT-961632.

This is the matter of the petition of GTE Northwest Incorporated for depreciation accounting changes. The hearing is being held before the commissioners and myself.

My name is John Prusia, I'm an administrative law judge with the commission. The hearing is being held in Olympia, Washington, on the 14th day of July 1997.

I took the appearances of counsel at a brief prehearing conference, I'll take appearances again at this time, but you don't need to repeat your address, just your name and who you represent, beginning with the company GTE.

MR. WILLIAMSON: Thank you. Tim Williamson and Richard Potter, representing GTE Northwest Incorporated.

MR. ROGOVIN: John Rogovin, also representing GTE Northwest.

JUDGE PRUSIA: And commission staff?

MS. JOHNSTON: Sally F. Johnston, assistant attorney general, appearing on behalf of the commission staff.

JUDGE PRUSIA: And for public counsel?

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

JUDGE PRUSIA: And for intervener Tracer?

MR. BUTLER: Arthur A. Butler, appearing on behalf of Tracer.

JUDGE PRUSIA: Thank you. At the prehearing conference we premarked testimony, is there anything else preliminary we need to cover before we hear from the first witness? Let the record reflect that there's no response.

I call the first witness at this time. I begin with commission staff who is calling Dr. Crew and I believe he is already sitting over here at the witness stand. If you would stand and raise your right hand. Whereupon,

MICHAEL A. CREW,

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

DIRECT EXAMINATION

BY MS. JOHNSTON:

Q. Good morning, Dr. Crew.

A. Good morning.

Q. Please state your full name for the record and spell the last, please?

A. Michael Anthony Crew and Crew is C-r-e-w.

Q. And what is your business address?

A. My business address is 21 Somerset, that's S-o-m-e-r-s-e-t, Avenue, Bernardsville, New Jersey, 07924.

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

A. I am a professor of economics in a graduate school of management, Rutgers University in Newark, New Jersey.

Q. Did you prefile written direct testimony exhibits in this case?

A. Yes, I did.

Q. And in preparation for your testimony here today did you predistribute what's been marked for identification as Exhibits 14 and 15?

A. Yes.

Q. Are there any revisions, corrections, modifications or additions to either your testimony or exhibits?

A. I got some minor correction to the testimony. On Page 7, Line 14 the word be should be deleted, and on Page 9, Line 4 the word that should be those. On Page 16, footnote 8, Line 1, the word ease should be case.

I have this written down on a small piece of paper which I would be glad to give to the court reporter if she would like it and if that's acceptable.

JUDGE PRUSIA: That would be fine. Those corrections will be made and entered into the record.

Q. Are those exhibits as corrected true and correct to the best of your knowledge, Dr. Crew?

A. Yes.

Q. And were they prepared by you or under your direction or supervision?

A. Yes.

Q. If I were to ask you the questions set forth in Exhibit 14 today, would your answers be the same?

A. They would be the same.

MS. JOHNSTON: Your Honor, I move for the admission of Exhibits 14 and 15.

JUDGE PRUSIA: Are there any objections to Exhibits 14 and 15?

MR. ROGOVIN: No objection, Your Honor.

MR. BUTLER: No objection, Your Honor.

JUDGE PRUSIA: Very well, those exhibits will be admitted.

MR. JOHNSTON: Thank you. Dr. Crew is available for cross-examination at this time.

JUDGE PRUSIA: Is there any cross-examination?

MR. ROGOVIN: Yes, we have a few brief questions.

CROSS-EXAMINATION

BY MR. ROGOVIN:

Q. Good morning, Dr. Crew, my name again is John Rogovin.

A. Good morning, Mr. Rogovin.

Q. I have just a few questions I want to ask you about your testimony as well as a couple of articles that I believe you have authored.

In your testimony you have advocated the use of economic lives and economic depreciation; is that right?

A. Yes.

Q. So it appears that we're in agreement then that economic depreciation is the proper way to analyze a depreciation in this docket; is that right?

A. Yes.

Q. In your testimony you appear to measure economic depreciation by a cash flow that is expected from GTE's assets; is that right?

A. Expected cash flow, right.

Q. And in fact, the cash flow analysis is central to your testimony;

isn't that right?

A. It's based upon that, right.

Q. You haven't prepared any cash flow analysis for GTE and its operations in the State of Washington, have you?

A. No.

Q. You also testified that there was a very large potential for growing not declining cash flows in telecommunications; is that right?

A. I testified there was a potential for growing cash flows, right.

Q. Yet you have not prepared any cash flow analysis to support your observation that there is a large potential, have you?

A. I have not produced a forecast of cash flows for GTE, I don't have the data available to me for that.

JUDGE PRUSIA: Excuse me for a minute, Dr. Crew, could you pull the microphone closer to you?

THE WITNESS: Sure, I better just repeat that then.

A. I haven't prepared a cash flow analysis for forecasted cash flow for GTE, I don't have the data available for that.

Q. You have also advocated the use of FCC lives as guidance; is that right?

A. The FCC range I have argued would provide excellent guidance, right.

Q. Those FCC ranges are not based on a cash flow analysis, are they?

A. My understanding is they are based upon a forward looking approach, I'm pretty certain they're not based on actual cash flows.

Q. And they're not based on any data specific to GTE or the State of Washington; isn't that right?

A. I think that's why they're arranged, because it's supposed to provide guidance for all parts of the country. So I can't say for certain whether the FCC included any GTE data in coming up with that range.

Q. Isn't it also true that those ranges are now five years old?

A. I think that's right, around five years old.

Q. If fact, the FCC has issued a notice of proposed rule making for additional study on that; isn't that right?

A. I think so, yes.

Q. You have testified that GTE might see increase in cash flows from cost reducing technologies and a demand in enhancing technologies; isn't that right?

A. That's right.

Q. But here again you have not prepared, have you, any GTE specific studies or Washington specific studies to support those observations, have you?

A. No.

Q. In addition you have also predicted that GTE will recover its capital because in part they have been highly successful in the past; is that right?

A. That has been one means by which they have recovered their capital, right.

Q. But again, that's not based on any study or periodical work that you have done as to GTE's cash flow in the future; is that right?

A. That's not based upon estimated cash flow in the future, but GTE -- that was written in response in part to a claim made by Mr. Sovereign, a claim that I felt was groundless, to the effect that this commission if they didn't give what it was asking for would be in some sense in breach of a regulatory contract.

So clearly such a claim was referring to essentially a backward looking claim of Mr. Sovereign's and it was an attempt to rebut that.

Q. You don't disagree, do you, Dr. Crew, that there has been a regulatory contract, do you?

A. Over the years there has been a contract or a compact or an implicit regulatory contract between commissions and regulated companies, you know. I guess I don't disagree, but I would like to elaborate to that extent.

Q. I would like to turn briefly again to a couple of articles that you have written and the first one has been marked as Exhibit 23 and it is entitled Economic Depreciation and the Regulated Firm under Competition and Technological Change. Do you have a copy of that article before you?

A. Yes, I brought one with me. I don't carry it around with me everywhere, but I happen to have it with me this time.

Q. Dr. Crew, I now travel with little bags full of your articles.

A. That's most gratifying, I mean, the average readership of an economic article is supposed to be one, now I must be at least double the average by now based upon what you just said.

Q. In with respect to Exhibit 23, is that an article that you authored along with Paul Kleindorfer?

A. Yes, Paul and I wrote that article and we published it in the Journal of Regulatory Economics in 1992.

Q. In that article you appear to urge the importance of capital recovery particularly when a firm faces competition and technological progress; is that right?

A. Yes, we do.

Q. In that article you wrote that when you have competition in technological progress, quote, front loading of capital recovery is essential if the regulated firm is to remain viable, closed quote, that's Page 52; is that right?

A. Yes, Page 52, we say that and we actually explain later in the article when that would apply. The kind of technological progress that's required for that to apply.

Q. You also wrote that, quote, if the introduction of accelerate capital recovery is delayed by regulators, they may effectively vitiate any opportunity of the firm to recover its invested capital, closed quote, and again, that's on Page 52; is that right?

MR. FFITCH: Excuse me, Your Honor, could we have counsel identify the paragraphs he is referring to?

MR. ROGOVIN: That would be the second full paragraph about six lines down.

Q. I apologize for not marking this ahead of time for you, but just take your time.

A. No, I have found it, no, that is here.

Q. And also you wrote that there, quote, are limited opportunities in the future under technological change in competition to rectify mistakes made now, closed quote, also on Page 52, and that is a little further down in that same paragraph; is that right?

A. That is all in here.

Q. Moving over to Page 57, in the first full paragraph, midway through the first full paragraph you also wrote, quote, with technological change in competition regulators may have only a limited time in which to allow the firm to price so as to fully recover its capital. After this window of opportunity has closed, competition will effectively have foreclosed the possibility that firm can ever recover its capital, closed quote; is that right?

A. That appears there on Page 57, I have it.

Q. And then again on Page 58, and this is a little bit longer, did you write the following: "The more rapid the technological change and the stronger the competition facing the firm, the briefer the time the regulator and the firm have to change depreciation policies if the firm is to recover its capital.

"This notion of a, quote, window of opportunity, closed quote, is particularly foreign to regulators and regulated companies. Traditionally there has always been the sense among regulators and utilities that problems could be put right, quote, at the next rate case, closed quote.

"This state of mind is clearly inappropriate in a world of competition and technological change, closed quote. Have I accurately stated what you wrote?

A. You have accurately stated what I wrote, though, but I think you should have included the previous sentence as well.

We demonstrated how technological change interacts with competition in affecting feasible capital recovery policies. Under these conditions accelerate depreciation is required to assure full capital recovery.

It's very important to understand that what we wrote here must not be taken out of context, it must be taken entirely in the context of this paper, which is a theoretical paper, and to see the context of this paper, what we had in mind, we have to look back to page 53 to equations, actually Page 52 and 53.

We could start with equation one, we won't go through many of these equations, but the idea of this equation as it states very clearly the kind of technological change we had in mind and the kind of competition we had in mind.

What's happening here is the cash flows are strictly declining in each period, that's what that little equation one says. That δ (phon.), minus the δ (phon.) to T , that's saying that the rate of decline in the cash flow is at a rate δ (phon.).

Now if we now move to Page 53, to the sense that's immediately below equation four, we have technological change and r (phon.) and where r (phon.) is the rate of interest or cost of capital, if you like, to determine whether economic depreciation is front loaded.

By front loaded we mean economic depreciation starts at a particular level and then decreases over time, as opposed to the alternative of end loading where it starts low and increases and then there's the normal straight line where economic depreciation is constant over every period.

Now we say if r is less than -- if this rate of interest is less than the rate of decline in the cash flows the depreciation schedule is everywhere front loaded.

That is a fairly tight condition for that to happen, but if that can be shown they will be able to be front loaded and those are the conditions to which we refer in this paper when all of these points that you correctly

stated, Mr. Rogovin, that are made here would apply, they would all apply if these conditions are satisfied.

The application of this paper may -- this is a theoretical paper as I stated. The application of the paper when we wrote it may have been different from its application now. This paper was written in -- I guess we originally thought of this idea in the mid to late '80s and we probably finished writing this, finished putting the finishing touches on it some time around '91.

There is always a publications lag, even though you might think I had a friend in the editor in this journal, it still didn't effect my ability to get this published, it didn't alter it, it still takes a time to get the thing published.

So in fact, if this applied, it may have applied much more to the condition of the '80s and early '90s than it does now, because I think since then things have changed considerably. That's not clear that cash flows are going to be declining at this sufficiently rapid rate.

Q. Dr. Crew, I'd like to turn to Exhibit 24, which is the second article that's been premarked.

A. This article appeared in a book, again the editor was a friend under my editorship, which was published in 1992 by Kluwer Academic Publishers.

Q. In that piece you appear to recount the pressures on the rate of return regulation system from competition and technological change and I wanted to ask you again in similar fashion whether I accurately stated several quotations from your piece and then follow that I just have a couple of brief questions.

A. Sure. Sorry about this chair.

Q. On Page 62 under 3.1, at the end of that first paragraph you write: "That prices could be kept low by stable depreciation rates which rested on the foundation of long service lives for plant and equipment and the understanding that under recovery could be rectified in future periods"; is

that right?

A. That's what it says there, right, that's what we wrote, yes.

Q. On Page 63 at the top there is a carry over paragraph, and I apologize, it's a rather lengthy passage, but I would like to read it and then ask if I have accurately read that. "With entry by competitors the traditional regulatory contract which was central to the success of RoR regulation" -- which I believe has been defined as rate of return regulation previously -- "began to erode.

"To the extent that the regulatory could not successfully guarantee the firm its exclusive franchise free from competition by entrance, its control over the price structure was called into question.

"The various subsidies which had become a significant feature of RoR regulation were not sustainable as entrants sought to skim the cream, leaving the incumbents with only the bulk of the cross-subsidized products.

"Similarly, not just cross-subsidies between products, but intergenerational cross-subsidies were highlighted by the forces of competition. A key area where this was evident was in capital recovery.

"Depreciation policies corresponding to the era of lower technological progress and no competition began to lead to reserved deficiencies for several LECs.

"In effect, charging lower than economic depreciation rates represents a form of intergenerational cross-subsidy. Future customers pay for under recovery of capital by current rate payers. This kind of intergenerational cross-subsidy was feasible in the past, but competition will not allow such cross-subsidies to exist.

"Indeed, if we reserved deficiencies do accumulate, they may never be eliminated. In this case it is the shareholder who has to pay for the short fall, but this cannot continue in the long run as the stock market reevaluates the risk of telephone companies relative to other investment opportunities.

Rapid technological change and competitive entry were the primary

reasons why RoR was challenged as an efficient governing structure for telecommunications." Have I read that correctly?

A. You have read that correctly, I should add, however, that a number of these statements in there do need to be qualified.

So if the competition is sufficiently strong they are all contingent on the competition being sufficiently strong and upon the existence of a reserve deficiency. They are all contingent statements on that point.

Q. I have one last snippet --

MS. JOHNSTON: Excuse me, before we move on, I think first that the document speaks for itself, so I'm not sure how useful it is to read this into the record, but we would like to point out that there is an indentation there before the last sentence read, meaning a new paragraph.

MR. ROGOVIN: Quite right.

Q. The last excerpt is from Page 74, midway in that first full paragraph you write: "As has been demonstrated in theory, citing Crew and Kleindorfer, capital recovery or depreciation policies take on added significance under technological change.

"Traditional regulatory policies with long asset lives may have serious adverse consequences for both regulated companies and rate payers under rapid technological change in competition"; is that right?

A. That is definitely true in the context of substitution type technological change as we described in Crew Kleindorfer in 1991.

Q. Dr. Crew, don't both of your articles boil down --

A. Incidentally, Crew Kleindorfer in 1991 -- I'm sorry to interrupt you, Counsel -- is actually essentially this. This has minor revisions relative to that, so it is this.

JUDGE PRUSIA: Would you indicate which one you're pointing to?

A. That's 14, I think.

Q. Exhibit 23 perhaps?

A. 23, right, this is 23 and the new one we're looking at now is 24.

Q. That's right.

A. So this one, so 1991 is in fact the Exhibit 24.

Q. Dr. Crew, am I right, I take it from reading both your articles that they really boil down to urging regulators to insure capital recovery particularly at a time of competition and technological change; is that right?

A. Particularly at a time of competition of the substitution variety and technological change, they do say that, but what we got here is we've got a quote from the beginning of the article, a quote from the end of the article and we should actually look a little bit more about what goes on in the middle here.

In the middle of the article we actually suggest conditions under which what would be required of the firm and what would be required of the regulator for these kind of capital recovery policies we were referring to here for these kind of recovery policies to be put into effect.

One of the things that we require explicitly in here is that there is a quid pro quo the utility basically gets in this particular case. We discussed price cap regulation, the utility would get a more attractive X factor under this scheme, but an X factor that increased over time.

This would give it the opportunity for cash flow, greater cash flows at the beginning and fewer cash flows later and we imposed some conditions in here that had to show that the consumer was better off before these were allowed.

Now I don't recall anything in the testimony of Dr. Vanston or Mr. Sovereign that had this kind of quid pro quo in it that we are referring to here. So if our paper is to be understood a little better, this central point has to be considered.

Q. Dr. Crew, I would like to just consult with a colleague for one second, if I could.

A. Sure.

MR. ROGOVIN: Your Honor, at this time I would like to ask that Exhibits 23 and 24 be moved into evidence. We have no further questions for

Dr. Crew.

JUDGE PRUSIA: Very well, are there any objection to the admission of Exhibits No. 23 and 24? Let the record reflect that there are none, the exhibits will be admitted.

And does public counsel have any cross for this witness?

(Admitted Exhibits 23 and 24.)

MR. FFITCH: None at this time, Your Honor.

JUDGE PRUSIA: Tracer?

MR. BUTLER: Yes, just briefly.

CROSS-EXAMINATION

BY MR. BUTLER:

Q. Dr. Crew, if I could invite your attention to Page 55 of Exhibit 23, which is the article entitled Economic Depreciation and the Regulated Firm under Competition and Technological Change.

A. Right.

Q. And specifically I'd like you to explain, if you could, the case small I that's listed there in the first full paragraph, if you could explain to me what that case is describing, please?

A. Well, that case would be the case where, you know, a firm had done pretty well, it may be that GTE had rather high earnings over a period of time, perhaps because access revenue had grown rather rapidly, perhaps because of the growth in the number of lines through access for Internet and fax machines and things like that.

So there were a lot of technological progress and there may have been quite severe competition in parts of the business. The company had done sufficiently well and it was not at all constrained strained by its profits.

In fact, in the language of rate of return regulation many of these companies would have been over earning, but many of them were in a price cap regime where of course that was no longer the case. They were given the opportunity to keep more of their earnings.

So that was the kind of case that we have in mind here. Then of

course none of these things like the window of opportunity would apply.

Q. Would it be fair to say that it is your opinion that the evidence in this case suggests that such competition as is appearing in such technological progress as we have witnessed so far would suggest that the ability of GTE to earn its cost of capital is not constrained and that this would be the case that would describe that?

A. I think this is probably the most likely case to describe the situation now for most local exchange carriers and I think probably GTE.

I mean, I can't predict the future in a flawless manner, but I have stated in the testimony that I believe there are opportunities available to local exchange carriers that previously didn't exist and they at least to offer the potential for increased cash flow.

Q. Thank you, no further questions.

JUDGE PRUSIA: Do the Commissioners have any questions for this witness?

E X A M I N A T I O N

BY COMMISSIONER HEMSTAD:

Q. Dr. Crew, with your approach to the issue of depreciation which you described as getting to economic lives, does your methodology differ significantly than that which the Commission and staff has applied here historically?

A. I think the approach that the staff applies does attempt to try to take into account some of the forward looking cash flows that we have in mind.

They perform their depreciation, part of that includes the historical data, but in another part they try to take into account what they anticipate is going to be the future holds in terms of potential for increased revenues and things like that, effects of technological change, the effects of competition, that is in an attempt to do that.

It's I think in many ways the approach of economic depreciation is, you know, quite different from what is employed and has traditionally been

employed under regulation and there are I think some significant differences.

But I think there is definitely an attempt now to try and take into account some of the message of economic depreciation by the staff in the way they do their depreciation studies.

Q. The approach that GTE would apply and ultimately with avalanche consequences as described, in a theoretical sense do you think that is an appropriate way to look at technological change in substitution?

A. I don't believe that it is an appropriate basis at all, I think that as I stated in my testimony, it's fundamentally flawed in a number of respects.

Q. Is it flawed in application or in theory?

A. Oh, I think both theoretically and the way it's been applied by Dr. Vanston.

The theory is basically one simple equation that's supposed to fit all, one case is supposed to fit all. And what as an economist, as most economists would agree with me, although President Truman said he wanted to see some one handed economists, they're not known for agreeing with one another.

The problem with the model is most economists when they put their model together like to believe they have got some explanation of at least some of the cause and effects, that your model should capture at least some of the causal relationships, but this in no way does that.

This just has this function and then he puts in a rate and then his rate just varies according to time, it doesn't offer any explanation as to what's going on.

Whereas in, for example, the economic depreciation model, we do try to provide an explanation as to, okay, the firm is interested in maximizing its future value, how is this going to be effected by changing its cash flows. We do at least try and in an admittedly highly abstractive way, come up with some causal relationship, bring some causal relationships into this.

Then of course empirically it's flawed because the data that he

used are very limited and they're also essentially not replicable, or maybe I shouldn't say not replicable, exceedingly difficult to replicate.

One of the important things about science is the ability of other researchers to replicate another scientist's results. In economics this is achieved normally by using data that a public, for example, if you take stock market prices, a researcher might do some research using stock market prices and another researcher would be able to replicate his results because the stock market prices are publicly available data, and none of this applies with Dr. Vanston.

Dr. Vanston has quite unlike the stock market data, which you have a lot of observation, he has very few observations, I think between six and ten he has for his studies and then in addition most of the data that he refers to is not from public sources.

It says, TFI meaning his own company, and another says planned data, those are simply the kind of data that he is plugging into this Fisher Pry relationship.

So I guess I went a little longer than you would have probably liked, but yes, I do think it's both theoretically and empirically flawed.

Q. Well, the FFI model has been available now for some time, have you looked at the historical application of that model in application at this point as getting to the point of how accurate has it been to date?

A. I have not gone into great details as to testing the accuracy of the forecasts performed by the Fisher Pry model. I can say that as they show with cross bar equipment, cross bar switching, the avalanche that they described was very successful.

Now we're talking about a long time ago and almost an antique technology now, cross bar equipment which were all sorts of special features about that. Possibly the companies over invested in this to begin with, Europe European telephone companies invested nothing near as much in crossbar and so they were able to skip a generation.

Q. How about any of the more I'll call it contemporary technology in

its now historical application?

A. Well, I have not directly studied some of those forecasts, but part of the problem is that with those that, you know, Dr. Vanston doesn't really have any kind of data himself to base that on.

I mean, as I indicated, some of his stuff was based on planned data and confidential data. I do know that the recently regulatory commission, the West Virginia, had the same concern, one of the same concerns as I have about Dr. Vanston's work, namely the difficulty of replication

Q. Thank you.

E X A M I N A T I O N

BY JUDGE PRUSIA:

Q. Mr. Crew, I have just a couple of questions on Page 8 to 9 of your testimony. You testify that the credibility of Dr. Vanston's empirical evidence is in doubt because he failed to calculate the standard statistics used in his analysis and you say that with his statements that those are not useful for this type of analysis.

You also testify that without statistics regression estimates cannot be evaluated, and then in his rebuttal testimony Dr. Vanston states that the probability statistics are not provided in any depreciation analysis that he's aware of, nonetheless, he does provide them in this case as an attachment, so I have a couple of questions.

Both you and he are economists, how can you disagree with something that's so fundamental, what is your disagreement?

A. Could I raise one question maybe, I don't know whether I'm allowed to ask a question of counsel, but if I could be given a little bit of latitude here?

MR. ROGOVIN: I would object to the witness asking counsel questions.

Q. You can't ask questions.

A. The question I would like to ask is I don't believe that Dr. Vanston tells himself out as a economist and I wonder whether -- that's what I

was thinking of and the only people that would know the answer to that other than me I guess would be the people that hired him, namely GTE.

I mean, I don't believe he holds himself out as an economist, he doesn't have a degree in economics and he doesn't had use models that economists use, but I guess it's a little bit unfair to ask counsel a question really, they're the ones who ask the questions.

Q. Now he has provided an attachment with these statistics?

A. Yeah.

Q. Does that help you at all in evaluating?

A. It does because it was an attachment and also we had a data request where we asked for more explanation. Data request ten, which we asked in response to this and in this data request ten he then explained exactly how he put his calculations together had.

The data request was helpful because it appeared to show that he had very few observations, like a maximum of ten and I think as little as six in some cases, maybe it was five, and this is what it appeared to show.

Now when we got the data request, the request ten, it essentially confirmed that. So it showed that the actual regression statistics for themselves based upon very limited data, almost probably be very, very weak data, unsatisfactory for this purpose.

Q. Thank you.

JUDGE PRUSIA: Is there any redirect for this witness?

MS. JOHNSTON: I may, Your Honor, but I would like to have a five minute break, please.

JUDGE PRUSIA: Very well, we'll take a five recess and we'll be off the record.

(Short recess.)

JUDGE PRUSIA: Let's be back on the record. Before I hear from you, Ms. Johnston, I wanted to correct one thing.

It was my error to indicate that Dr. Vanston was an economist,

apparently he is not. I don't find anything in his testimony indicating any claims to be an economist.

Secondly, I don't believe that I indicated when we first went on the record that there are two commissioners present today, Commissioner Hemstad and Commissioner Gillis.

So now do you have any redirect,
Ms. Johnston?

MS. JOHNSTON: No, Your Honor, we have no redirect for Dr. Crew, however, I would like to offer into the record Mr. Vanston's response to staff data request number ten given that Dr. Crew referred to that.

JUDGE PRUSIA: Do you have copies of that?

MS. JOHNSTON: Yes, I do.

(Marked Exhibit 25.)

JUDGE PRUSIA: Will you please bring five up here, give a copy to each counsel.

I have been handed a one page document which is headed GTE Northwest Incorporated Washington Utilities, WUTC staff data request and it's data request No. 10, I have marked that for identification as Exhibit No. 25.

Is there any objection to the admission of that exhibit? Let the record reflect that there's no objection, that exhibit will be admitted.

Is there anything further for this witness?

MR. ROGOVIN: No, Your Honor.

JUDGE PRUSIA: Let the record reflect that there's nothing further. Very well, you will stand excused then, Dr. Crew, I thank you for appearing today and is there anything further to come before us this morning before we adjourn?

MR. FFITCH: Your Honor, it just occurred to me, I have not talked with other counsel about this, but it occurred to me we might want to talk about scheduling of witnesses for the hearing two weeks hence, if there's any need to do that.

As I said, I haven't compared notes with anybody else, but maybe

while we're all here it might make some sense.

JUDGE PRUSIA: Is that something we can do off the record?

MR. FFITCH: I believe so, certainly initially.

JUDGE PRUSIA: Very well, let's be off the record
to discuss that.

(Admitted Exhibit 25.)

(Hearing adjourned at 10:55 a.m.)