Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Cellular Telephone & Internet Association's	)	WT Docket No. 05-194
Petition for Declaratory Ruling Regarding	)	
Early Termination Fees in Wireless Service	)	
Contracts	)	

WRITTEN TESTIMONY OF PATRICK W. PEARLMAN
ON BEHALF OF NASUCA
EN BANC HEARING, JUNE 12, 2008

ATTACHMENT 3
(EXCERPTS OF TESTIMONY OF LEE L. SELWYN IN *AYYAD v. SPRINT*)

IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA

IN AND FOR THE COUNTY OF ALAMEDA

BEFORE THE HONORABLE BONNIE SABRAW, JUDGE

DEPARTMENT 22

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RAMZY AYYAD, et al.,

Plaintiffs,

vs. Case No. RG03-121510

SPRINT SPECTRUM, L.P.,

Defendant.

/

REPORTER'S TRANSCRIPT OF PROCEEDINGS

COUNTY ADMINISTRATION BUILDING

THURSDAY, MAY 22, 2008

Teri F. Rosette

Certified Shorthand Reporter No. 6631

APPEARANCES:

For the Plaintiffs:	SCOTT A. BURSOR, Attorney at Law
	JACQUELINE E. MOTTEK, Attorney at Law
For the Defendant:	DOMINIC SURPRENANT, Attorney at Law
	CHRISTOPHER TAYBACK, Attorney at Law

* * *

MR. BURSOR: Your Honor, there's going to be another break at some point; is that right?
THE COURT: Yes.
MR. BURSOR: I may not need the computer until then. It doesn't seem to be lighting up. But maybe we can break take a break when I get to that.
THE COURT: Okay. We'll see if we can get it going.

DIRECT EXAMINATION (Cont'd)

BY MR. BURSOR:
Q. Good morning, Dr. Selwyn. Welcome back.
A. Good morning.
Q. Do you remember where we left off in your testimony, we were talking about the United States International Trade Commission?
A. Yes. I think so.
Q. And I had written up on the board here a summary of your testimony about the Commission tracking handset wholesale prices?
A. Yes.
Q. And I believe right when we broke at the end of the day you had testified that the wholesale cost of phones from 1999 through '06 ranged from a hundred to $117?
A. Yes. That's correct.
Q. I want to pick up where we left off. So I'm going to take this price range from the ITC, and I'm going to start a new page. Have you had occasion to study data on the average retail price paid for consumers for handsets?
A. Yes.

Q. What data have you seen on that?
A. There was data that was released by the Cellular Telephone and Internet Association, which is the trade association of the cellular industry, that indicated that the average retail price that consumers paid for handsets was $65.67.
Q. What year was that?
A. In 2006.
Q. And what is CTIA?
A. CTIA, Cellular Telephone and Internet Association, is the trade association whose members include the -- all of the principal wireless carriers.
Q. And this figure that you've testified to this morning comes from CTIA; is that right?
MR. SURPRENANT: Objection, Your Honor. Outside the scope of his designation.
THE COURT: In terms of the source of that number, I'm going to allow him to testify as to the source of the number.
THE WITNESS: Yes. That's correct.
BY MR. BURSOR:
Q. Who was the first person to call the CTIA data to your attention?
A. Actually, it was Mr. Surprenant who brought that number to my attention during one of the depositions.
Q. How many times has Mr. Surprenant taken your deposition?
A. I don't know. Half a dozen or so.

Q. Have you had occasion to study Sprint's activation fees?
A. Yes.
Q. How much was Sprint's activation fee in 2006?
A. I believe it was typically around $35.
Q. Now, you understand that one of the areas of dispute in this case concerns handset subsidies; right?
A. Yes.
Q. The supposed difference between the wholesale price that Sprint pays for handsets on the one hand and the amount that they receive in revenue for them on the other?
A. Yes.
Q. And as we've walked through the 10-Ks -- and we're going to get back to our journey through the 10-Ks in a few minutes -- we've seen references to selling handsets at or below cost?
A. Yes.
Q. Were you able to reach any conclusions about the magnitude of handset subsidies on average?
A. Yes.
Q. What were your conclusions?
A. Well, if you look at the numbers that you just put up there --
Q. I'm sorry. I'm going to bring it closer.
A. So we have from the ITC data the cost range. To be fair, since we're looking at revenue numbers for 2006, we should use the 2006 cost, which my recollection is it's approximately $115. That is the ITC taking the 2006 imports

and dividing it -- import value and dividing it by the number of units imported.

MR. SURPRENANT: Your Honor, I don't have a problem with this, but I can't see. So let me just walk over there.

THE WITNESS: I can remember it now. So maybe you should write $115 as the comparable cost to those revenue figures just to make it clear.

MR. BURSOR: Okay. 115.

THE WITNESS: We have two components of handset revenue; that's $65.67, which is the average retail price of the handset charged by CTIA members, and then there's the $35 activation fee, which is also part of the price of the handset. So if you add those two together, we get $100.67.

BY MR. BURSOR:

Q. And so can we subtract that from 115 to determine a an average handset subsidy?

A. Yes.

Q. Can you do that math in your head?

A. Approximately $114 and I think 33 cents.

Q. Actually, $14.33.

A. What did I say? 400?

Q. You said 114.

A. No. No. No. 14.

Q. 14.33?

A. 14.33.

Q. I know some of the jurors in the back have had a hard time seeing. So each of these figures comes from a -- well, except for the activation fee, the $35 activation fee, the other two figures come from sources external to Sprint; correct?

A. That's correct.

Q. Did you also examine Sprint's internal figures for handset costs?

A. Yes, I did.

Q. And what did you find?

A. Well, they were several times the ITC -- I'm trying to remember the precise number, but my recollection is they were up in the range of 250 to $300. I don't know how that calculation was made, what else was included, whether or not various types of other retail related costs or handling costs were included. Returns, warranty issues. It could have been a number of things.

I mean, I would be surprised if Sprint's number were precisely the same as the industry average, but I would also be even more surprised if it were that different.

Q. And what conclusions -- based on your study of the USITC data, of the CTIA data, and of Sprint's internal data, what conclusions, if any, were you able to draw with respect to the magnitude of handset subsidies?

A. I think -- again, I have no reason to believe that the type of handset that Sprint provides is materially different, the mix of handset that Sprint provides is materially different than what we're finding industry wide. So I think we can certainly use the ITC cost figure as a rough approximation. So that's around $115 in 2006. And we have roughly a hundred dollars and some change in revenue per handset in that same period of time. So roughly we're looking at a $14 and some change subsidy.

Q. On average?

A. On average.

Q. Now, I want to ask you a question that Sprint's counsel asked rhetorically in his opening statement. He held up a handset and he asked, "If we give this handset away for free, you know there has to be some kind of a subsidy on that because we didn't buy it for free." You weren't here, but can you understand what I just said?

A. Yes.

Q. Is it possible -- can you explain how you would understand or respond to that question?

A. Well, first, as a general matter, Sprint doesn't give away handsets for free because at a minimum they charge a $35 activation fee.

Q. Okay. So based on the activation fee alone, is it possible -- well, are there handsets that might cost less than $35?

A. Yes. I believe so. In fact, I recently purchased one from an electronics -- from J & R Electronics of New York for $35. And that was J & R's retail price and this was without any service activation requirements. So I'm assuming that whatever wholesale price J & R paid was less than $35.

Q. So I just want to make clear. The 115 figure from USITC, that's an average figure; right?

A. Right. It would include my $35 handset, and it would include 300 and $400 PDA type handsets.

Q. Based on your analysis of handset price data, is it possible that a company could actually turn a profit on the handset itself simply through the activation fee?

A. It's possible. We would have to look at the type of phones that are being offered under the so-called free arrangements. But certainly there are low-end phones that have wholesale prices down in that range. So if that's what they are giving away for, quote, free, then they may well be turning a profit of $35.

Q. Okay. Dr. Selwyn, I want to provide you with a copy of Exhibit 416. And we're going to resume our journey through Sprint's 10-K reports.

THE COURT: Is that one you gave us yesterday or a new one?

MR. BURSOR: I have extras for Your Honor. And these are the ones we discussed yesterday.

THE COURT: Okay.

BY MR. BURSOR:

Q. Dr. Selwyn, do you have Exhibit 416?

A. Yes.

Q. Have you seen it before?

A. Yes.

Q. What is it?

A. This is the Sprint 10-K form for the year ended December 31st, 2002.

Q. Where did you get it from?

A. As with the others, my staff downloaded it from the SEC web site.

Q. Did the chief executive officer of Sprint sign this one like the others?
A. Yes.
Q. Did the chief financial officer of Sprint sign this one like the others?
A. Yes.
Q. Did the chief accounting officer of Sprint sign this one like the others?
A. Yes.
Q. Did Sprint's outside auditors audit this one like the others?
A. Yes.
Q. And did the outside auditors sign off on this just like the prior 10-Ks?
A. They did.
Q. Did you review this 10-K in the course of your work in this case?
A. I did.
Q. Why?
A. Again, I was trying to extract certain information, certain financial information from it, but also was looking to determine whether or not there was any information that was being provided by Sprint relative to termination fees.
Q. Let me ask you to look at page 42 of 118. And again, I'm going to use the numbers. I hope they are not cut off on that one again.
A. I have them.
Q. Is that copy okay?

A. Yes.

Q. Do you have that page, Dr. Selwyn?

A. I do.

Q. Do you see in the last paragraph there's a discussion of the program targeting the subprime customer segment?

A. The clear pay program, yes.

Q. Right. And did you study that?

A. I did.

Q. And could you describe again what the clear pay program was just to refresh us?

A. The clear pay program was an effort by Sprint to attract what are considered to be subprime customers. That is, customers who would not have qualified for credit and therefore not be eligible for a post pay calling plan under the previous Sprint credit policies. So Sprint relaxed its credit and deposit policies for the purpose of attracting additional customers.

Q. What happened when Sprint did that?

A. Well, what is reported in the 2002 10-K is that its churn rate increased -- in fact, it increased fairly dramatically -- as a result of defaults among customers who were attracted under this plan.

Q. What was the churn rate in 2002 after subprime was targeted? Actually, I apologize Dr. Selwyn. I don't see it on this page. Just give me a moment. I think you'll find it on page 44, two pages in. Second paragraph on that page.

A. It increased to 3.3 percent from 2.6 percent in

2001.

Q. Is that a significant increase?

A. Yes.

Q. In 2002 -- could you just give us a rough estimation of the magnitude of the effect of that churn rate on a subscriber base of 14 million subscribers?

A. Let me try to do a quick calculation. So we went from 2.6 to 3.3, which is an increase of .7 percent per month. So if you multiply that by 12, you get 8.4 percent for the year. And what did you say? 14 million was the subscriber amount?

Q. Roughly.

A. So if we multiply that by 14 million, we would get an increase in churn of roughly 1,176,000 customers.

Q. Just by going from 2.6 to 3.3, Sprint is going to lose an extra how many customers?

A. 1,176,000.

Q. How would that impact Sprint's bottom line?

A. It would certainly cut into Sprint's profits, yes.

Q. You can set that one aside, Dr. Selwyn. Just pile it up right there.

MR. BURSOR: Your Honor, I'm providing Dr. Selwyn with Exhibit 417. It is the Sprint corporation form 10-K for the fiscal year ended December 31, 2003.

BY MR. BURSOR:

Q. Dr. Selwyn, do you have Exhibit 417?

A. I do.

Q. Have you seen it before?

A. I have.
Q. What is it?
A. It's the Sprint corporation form 10-K filed with the Securities and Exchange Commission for the year ended December 31st, 2003.
Q. Where did you get it, sir?
A. As with the others, it was downloaded by my staff from the Securities and Exchange Commission web site.
Q. Did you study this as part of your work in this case?
A. I did.
Q. Why?
A. Same reason as the others. I wanted to extract certain financial information, and I also wanted to see whether or not and how the effects of early termination fees were discussed in the 10-Ks.
Q. Did the chief executive officer of Sprint sign this one like the others?
A. Yes.
Q. Did the chief financial officer sign this one like the others?
A. Yes.
Q. Did the chief accounting officer sign this one like the others?
A. Yes.
Q. Was this one audited like the others?
A. Yes.
Q. Did the outside auditors sign off on this one like

the others?

A. Yes.

Q. Can you turn to page 56 of 165.

A. I have it.

Q. Do you see there's a discussion of churn in the middle of that page?

A. Yes.

Q. Are you aware of what was happening with enforcement of the early termination fee at this point in time in terms of whether it was being enforced more or less or the same?

A. The churn rate dropped back down to 2.7 percent from the 3.3 percent that was reported for 2002.

Q. And do you have -- based on your study of the data in this case, do you have an understanding as to why the churn rate dropped in 2003?

A. Sprint explains that it dropped as a result of increased collection activity and tighter credit.

Q. What do you mean increased collection activity? And Dr. Selwyn, I just want to caution you. We're not supposed to read from the -- we're not supposed to read verbatim from the document because of a pending issue.

THE COURT: I think he's refreshing his recollection.

THE WITNESS: Well, there were references in here to effective customer retention programs and credit management. I read credit management to connote perhaps a combination of tighter credit. That is, a tightening of the requirements to obtain credit as well as increased efforts to collect overdue accounts.

MR. SURPRENANT: Your Honor, objection. Move to strike. The witness's answer was "perhaps." He is just speculating.

THE COURT: Objection is overruled. The answer may remain.

BY MR. BURSOR:

Q. Now, we've just reviewed a series of 10-Ks that talked about the situation with the subprime market that Sprint decided to get into; right?

A. Yes.

Q. And did that cause an increase in defaults?

A. That's what the 10-K seems to be saying, yes.

Q. And the company at this time is -- are they still selling the handsets below cost with these subsidies that we talked about?

A. Yes.

Q. Was there any data that you saw reporting any significant losses caused by handset costs to these subprime customers?

A. Separate and apart from the general statement of selling handsets below cost?

Q. Right.

A. No.

Q. Each of these 10-Ks that we've looked at so far, Dr. Selwyn, have they included references to the sale of handsets below cost every single year?

A. Yes.

Q. Have they included references to CPGA? I know we spent a lot of time on that yesterday; right?

A. Cost per gross add.

Q. Right.

A. Yes.

Q. And we probably spent half an hour explaining what cost per gross add was; right?

A. Yes.

Q. And we did that by reference to I think the '99 10-K, but that's something that's in there every year; is that true?

A. Yes.

Q. From '99 to 2003, in each of 10-Ks did you see any statement drawing any connection between the amount of the early termination fee and cost per gross add?

A. No.

Q. In any one of these 10-Ks that we have reviewed, did you see any statement drawing any connection between the amount of the ETF and the amount of any handset subsidy?

A. No.

Q. In any one of these 10-Ks that we've reviewed, did you see any statement suggesting any connection between the amount of the ETF and any kind of cost for handsets?

A. No.

Q. In any one of these 10-Ks that we have reviewed, did you see any connection between the amount of the ETF and the recoupment of any costs at all?

A. No. There was no reference to the ETF in any of these 10-Ks.

Q. Now, did the company in the 2003 10-K in their discussion of churn at page 56, did they draw a distinction between voluntary and involuntary churn?

A. Yes.

Q. And do you have an understanding of what that distinction is?

A. Yes.

Q. Can you explain it?

A. Voluntary churn occurs when a customer in good standing, that is, who is not in a billing in arrears situation, makes a decision to discontinue service. Involuntary churn arises when Sprint, typically due to nonpayment of an account, discontinues, that is, cuts off the customer's service.

Q. And was there an explanation in the 2002 and 2003 10-Ks as to whether the increase in connection with the targeting of the subprime market, the increase in churn, was that the result mostly of voluntary or involuntary churn?

A. Let me answer your question and then I'll get myself some water. Yes. The 2003 10-K reports that the increase in involuntary churn resulted from the discontinuation of the clear pay program.

Q. Let me make sure I understand. Go ahead and get your water, sir. So this is what I want to ask you about, Dr. Selwyn. When churn went from 2.6 in 2001 -- can you see?

A. Yes.

Q. When it went from 2.6 in 2001 to 3.3 in 2002, what

kind of churn was that, was primarily responsible for that increase? Was it voluntary or involuntary?
A. It was primarily involuntary.
Q. And that means that it was primarily Sprint canceling the customers' accounts?
A. Yes.
Q. Because there was a high rate of nonpayment on the subprime folks?
A. Apparently that's the case, yes.
Q. Is that surprising?
A. No. If you make -- if you relax credit standards, then you end up with additional customers. But you also end up with a higher than average percentage of customers who then encounter difficulty paying their bills. Same thing occurring right now with respect to subprime mortgages.
Q. So this was not something that would be unexpected; is that fair?
A. I wouldn't think it would be unexpected, no.
Q. Were you able to draw any conclusions from the fact that Sprint made the business judgment to enter that market?
A. Well, I'm assuming -- and I think it's a reasonable assumption -- that Sprint made a business judgment that even though there would be some elevation, some increase in the rate of default in the number of customers who would end up defaulting on their account, that factoring that in against the gain in additional customers that resulted from the relaxation of credit policies would produce a net profit.
Q. So that was a business judgment that Sprint made.

customer has, let's say, 12 months left on the contract and discontinues it, then the revenue loss to Sprint has to be reckoned with respect to the amount to which the customer was obligated to pay, which in this case would be that 39.95 a month. So we would look at the contractual portion of the total service arrangement because that's all that's included within the contract.

Q. Let me see if I can try to clarify that a bit. Is it accurate to summarize that answer by saying you don't have an obligation to buy the extra stuff beyond the contract?

A. That's right.

Q. And did you make some determination as to what portion of Sprint's revenues comes from the contractual side and which portion of the revenues comes from optional services?

A. Well, yes, I did. Although the actual a source of that came from one of Sprint's witnesses who provided data for the period 2001 through 2006 showing the portion of Sprint's -- and we're talking about Sprint Wireless here. Of Sprint's total revenues that were associated with the fixed monthly plan charges versus the optional service charges.

Q. So these data on the percentage of revenues from the optional charges as compared to the contractual charges, you took those from Dr. Taylor?

A. Yes.

Q. And who is he?

A. He is one of Sprint's experts.

Q. And you don't have any reason to dispute these

figures; do you?
A. No.
Q. You accept them?
A. I'm accepting them as presented, yes.
Q. Okay. So according to Dr. Taylor's numbers, about a third of Sprint's revenue is from optional charges.
A. Approximately that, yes.
Q. Why does that matter?
A. Well, we're trying to examine the effect on the financial consequences for Sprint resulting from early terminations. If a customer discontinues service, the customer will cease paying the fixed monthly charge and will enable Sprint then to avoid the costs associated with providing the services. If we can go back to the previous slide for a moment.
Q. Sure.
A. The services that show up in the left-hand column, that's what's covered by the fixed monthly charge.
Q. So these on the left-hand column is about two-thirds of the revenue.
A. That represents about two-thirds of the revenue.
Q. And these on the right-hand part of the column represent about one-third of the revenue.
A. Yes.
Q. According to Dr. Taylor.
A. Yes.
Q. And I see you put on the chart Sprint breaks even on the contract service. I know we are going to get there, but

can you just give us a shorthand explanation of why that is?

A. Well, as it turns out, the way that Sprint has designed its pricing is that essentially if all its customers were to do was to purchase only the contract services and never purchase any optional services, then Sprint would roughly break even.

In other words, Sprint has designed its pricing model so that essentially all of the profit comes from optional services, and the core services that are covered by the monthly plan charges are essentially designed to break even.

Q. All right. I want to do the math to see how you get there, Dr. Selwyn. Okay?

A. Okay.

Q. So let's go to your last slide. What did you calculate on this last slide?

A. Well, what I did here on the top line --

Q. Was this your calculation of the profit margin of Sprint on the contract?

A. Yes.

Q. All right. And you did that for each year from '99 through 2005?

A. Yes.

Q. And what do we have in this first line labeled "Contract Revenues Without Optional Charges"? What is that?

A. That represents the total revenues that Sprint reported in its 10-K reduced to exclude the proportion of revenues identified by Dr. Taylor as coming from optional services. So roughly reduced by a third, but it was actually done -- whatever his number was for each year is what I used.

Q. Let me make sure I understand. For this line here, you started with the reported audited figure from the 10-Ks and Qs; right?

A. Correct.

Q. And you reduced it by Dr. Taylor's figures for the break-out of optional and contractual services.

A. Correct. Then I divided that by number of subscribers, and I divided it again by 12 to express it on a monthly basis.

Q. And is that the correct way to do it?

A. Yes. I believe it is.

Q. Now, I want to ask you about the second line, average variable cost per subscriber. What is that?

A. Again, the goal here was to identify only those costs that are affected by the number of subscribers, that vary as the number of subscribers changes.

Q. Is that why you had the regressions with the trend lines?

A. Yes.

Q. All right. So this may have been a roundabout way of getting there, but you used the data from those regressions to calculate these figures?

A. Well, not precisely. I used a slightly different calculation, but the effect of the calculation was to identify and isolate costs that had changed. What I did was take a base year of 1999, and then I compared the change in total operating expenses for each year relative to 1999 against the change in number of subscribers between that year and 1999. What I was attempting to do was identify the variation, the variable costs associated with those additional customers that were brought into the service, put on the network, from and after 1999.

Q. Okay. Now, we already talked about the fact that you excluded the revenue from optional services -- the revenue from optional charges from the top line. So are you just including all the costs in the second line?

A. No.

Q. Why not?

A. Well, the optional services do have certain costs associated with them. They are relatively small compared to the core services, those basic contractual services. But if I'm going to exclude optional revenues, then I need to make a corresponding exclusion of costs associated with those optional revenues.

Q. And if you didn't do that, you would understate the amount of profits; right?

A. I would -- yes. If I didn't make that exclusion, I would be assigning costs to the monthly services that would be too high, and hence I would be understating profit.

Q. Right. So if you are going to do this in a scientific and mathematically valid way, you've got to exclude some portion of those costs; correct?

A. Yes.

Q. How did you do that?

A. Unfortunately, Sprint data does not identify specifically what the costs are as between its core services and its optional services. So I had to look at other sources for that. And I found several that I felt were relevant and that I could rely on.

Q. Well, let me ask you this: Did you develop an estimate of the profit margin on optional services?

A. Yes, I did.

Q. And what is that margin?

A. I estimated that the cost of optional services were 10 percent of the revenues. In other words, the operating margin, profit margin, was about 90 percent.

Q. How did you do that?

A. I had several sources. A professor at MIT that Sprint has used as an expert in the past recently estimated the cost per minute of use of wireless networks, wireless services, to be approximately four-tenths of one cent. So if we compared that figure with the 45 cent overage charge, we would end up assuming that the optional service cost is about one percent of revenues and hence the profit margin would be 99 percent.

I looked at -- the Sprint expert in this case, the one that had looked at those third quarter 2006 figures, he estimated the cost of optional services at about 19 percent of revenues. So we had on the one hand a one percent figure and we had a 19 percent figure.

Also looked at several other sources. The same MIT professor whose name is Jerry Hausman had written a paper that was published in the National Tax Journal three or four years ago that estimated the long-run cost of a wireless minute at about five cents. So that puts us much closer to the 10 percent. In other words, five cents compared to 45.

One of the better data sources that I found, however, was a cost study that Sprint itself had done and submitted in a case at the New York Public Service Commission in 2002 -- I believe that was the year -- in which it estimated the cost at 3.9 cents a minute. So now we're sort of a little under 10 percent of that 45 cents.

So looking at this range, I had a figure of one percent. I had a figure of 19 percent. I had another figure that was a little below 10 percent. I had a fourth figure that was a little above 10 percent. And I felt that 10 percent was a reasonable estimate of the costs associated with optional services.

Q. Okay. So you started with the price of an overage minute of 45 cents; right?

A. Yes.

Q. And one of the sources you mentioned was Sprint's own cost study?

A. Yes.

Q. And what was the conclusion of Sprint's own cost study that it did?

A. Sprint's own cost study was that the cost was 3.9 cents per minute.

Q. And so based on those data, what was your conclusion as to the likely profit margin on an overage minute?

A. Well, if I use the 3.9 cents -- I divide 45 cents by 3.9 cents, I would end up with a profit margin of about 91 cents. 91 percent.

Q. What about other types of optional services besides overage like data services and text messaging? Did you draw any conclusion as to the profitability of those services?

A. I did. We didn't have any specific cost information for some of these other services, but they do bear a relationship to voice minutes. For example, Sprint's -- when you place a call on most wireless services, and certainly this is the case for all of Sprint's services, the voice signals are translated into a digital format and are sent in digital format over the network.

Sprint offers other services that also use the same digital network. And let me give you two examples. One is photos, that is, taking a picture with a camera phone and sending it as a -- sending it to someone else. And the second are text messages. The amount of data that is involved in transmitting a typical photo that would be taken with a wireless camera phone is approximately between -- equivalent to something between eight and 15 seconds' worth of voice calling.

So even using the high end of that range, if a minute of voice calling is 3.9 cents, then it represents the cost of sending a photo is probably something closer to about one cent. And I believe Sprint charges 20 cents to transmit a photo so that would imply a profit margin of 95 percent. That is, five percent of revenues representing costs.

Text messages also use that same digital network, except here we're talking about a really miniscule amount of data relative to the amount of data that is required to handle a voice call.

Sprint's charge for text messages is also 20 cents. The amount of data involved is probably less than a 10th that of a photograph, maybe even closer to a hundredth to that of a photograph. We're talking about an immeasurably small amount of cost in terms of tenths of hundredths of a cent as against the 20 cent price.

So once again, I think, if anything, my 10 percent cost estimate is probably on the high side. But I certainly think that it is a reasonable approximation for the study that I've done.

Q. Okay. So you've adjusted the cost line to account for that; correct?

A. Yes.

Q. And what does the final line on the graph show or on the chart?

A. The final line on the chart shows that if we compare the monthly revenues with the variable costs and we subtract that second line from the first line, we can estimate the profit margin associated with the contractual services.

Q. And you have previously expressed the opinion that Sprint roughly breaks even on the contractual services?

A. Yes.

Q. And do these figures bear that out?

A. Well, I think they do. What I did was to calculate -- as you see, some of them have negative values, some of them are positive values. So some years they were ahead, some years they were behind on them. But I made a calculation of the weighted average of those profits or losses, weighting them by the number of subscribers in each year. And when I did that, I had come up with an estimate of the weighted average profit margin on contractual services at approximately 70 cents per month.

Q. So based on your calculations, Sprint's margin on contractual services is roughly 70 cents a month?

A. Yes.

Q. And you've characterized that as roughly breaking even?

A. Well, yeah. Because we're looking at -- you know, comparing 70 cents to $40 in revenue. It's only a little over -- it's not even two percent of revenue or approximately two percent of revenue would represent that lost profit.

Q. I want to ask you to help me with some math, Dr. Selwyn. Sprint's counsel has told us that the average customer that terminates leaves the company with 13.2 months remaining on the contract. And you've seen that figure in some of Sprint's expert reports; correct?

A. Yes.

Q. And according to your analysis, Sprint has roughly a 70 percent monthly margin; correct?

A. 70 cents.

Q. 70 cents?

A. Yes.

Q. All right. Can you use those two figures to estimate Sprint's loss from early termination on average?

A. Yes. If we multiply the 70 cents times that 13.2 months, we can estimate the loss at $9.24 on average.

Q. What is the amount of Sprint's early termination fee?

A. It had been $150. I think it's currently $200.

Q. So currently roughly 20 times the average loss?

A. Yes.

Q. I want to see if you can help me calculate the actual loss not on average, but across the entire class in this case. So if we take your $9.24 number and we multiply it by the number of class members in this case, would that give us an estimate of the actual loss to Sprint from the early terminations by the entire class?

A. Yes.

Q. Now, you know that Mr. Dippon has told us how many class members there are; right?

A. Yes.

Q. And he told us that there are 1,906,853 class members; correct?

A. That's my recollection, yes.

Q. If we tried to determine what Sprint's total loss is from the early terminations of all those class members, how would we do that?

A. We could multiply those two together, and we would get $17,619,322.

Q. Do you know how much Sprint charged those class members in early termination fees?

A. I think the figure that was provided in the most recent testimony by Mr. Dippon was roughly 283 million.

Q. So roughly 13 or 14 times the amount of the actual loss?

A. 16 times.

Q. 16 times the amount of the actual loss?

MR. BURSOR: Your Honor, this would be a good point to break for the day.

THE COURT: You are not going to finish within the next five minutes?

MR. BURSOR: (Shakes head from side to side.)

THE COURT: All right. Ladies and gentlemen, we will take the recess at this point. Please keep in mind the admonitions. You will not be coming back until Tuesday. I'm sorry. I'm getting a jump on the weekend, I guess. This is Thursday, not Friday. We will see you tomorrow morning at 9 o'clock.