BEFORE THE

INTERSTATE COMMERCE COMMISSION

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In the Matter of: :

SANTA FE SOUTHERN PACIFIC CORPORATION : Finance Docket

-- CONTROL -- : 30400 et al.

SOUTHERN PACIFIC TRANSPORTATION :

COMPANY :

- x

Hearing Room A

12th & Constitution, N.W.

Washington, D.C.

Monday, October 22, 1984

The hearing in the above-entitled matter was convened, pursuant to notice, at 9:00 a.m.

BEFORE:

JAMES E. HOPKINS,

Administrative Law Judge

APPEARANCES:

As heretofore listed, with the following addition:

On behalf of Union Pacific System:

FORREST M. KEUTTER, ESQ.

1416 Dodge Street

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EXHIBITS

P R O C E E D I N G S

JUDGE HOPKINS: Let's come to order.

Mr. Kharasch, are you ready to go?

MR. KHARASCH: Yes, Your Honor.

JUDGE HOPKINS: Go right ahead.

Whereupon,

NEWTON D. SWAIN,

the witness on the stand at the time of recess, having been previously duly sworn, resumed the stand, and was examined and testified further as follows:

CROSS EXAMINATION - RESUMED

BY MR. KHARASCH:

Q Mr. Swain, let us begin today by reviewing some of the stages in the data processing.

MR. WILSON: Your Honor, I was wondering, Mr. Kharasch asked a question last Friday, a 30-minute question with numerous subparts, asked Mr. Swain to give the answer, and Mr. Swain has that answer now. Perhaps that would be the best way to start.

JUDGE HOPKINS: Which way do you want to have it?

MR. KHARASCH: I would like to proceed, and at the break, we will take the answers, if they are in writing. We will get to it.

JUDGE HOPKINS: Are they in writing?

MR. WILSON: No. Since the questions are on the record, the answers have to be on the record, so the answers will be oral answers.

MR. KHARASCH: We will get to it.

JUDGE HOPKINS: All right. Let's go, then. He is the one asking the questions. We will wait and let him have it the way he wants it. Go ahead, Mr. Kharasch.

BY MR. KHARASCH: (Resuming)

Q We were about to review the stages in the process. You began with a DNS network model which you had used before.

A That's correct. We have used it in several previous studies. As a matter of fact, the network model that we use is being used right now by the ICC in calculating their cost recovery percentages, and they are also using it in their stand alone costing.

Q Now, this network model had been used before, but in the course of your work in this case, the network model was changed quite a bit.

A The line segment designations were changed to reflect the -- some of the changes that the SP and Santa Fe wanted to make primarily in their system, yes.

Q And when we refer to your network model, did it contain calculated impedences before you began this

proceeding in this case?

A It did contain impedences, yes, sir.

Q And those calculated impedences have been changed several times in this case.

A The impedences, we updated the impedences as soon as we got to 1982 carload way bill sample from the ICC, which we had never had previously. That was the first thing we did, was update the impedences.

Q And then after updating it, at several points during the processing in this case, the impedence model was changed, the impedence calculations.

A The impedence were changed to reflect the new volumes of traffic at each of the junctions.

Q And in addition to changes to reflect new volumes of traffic, the impedences were sometimes changed by simply putting different impedences into the network.

A Where the final evaluators wanted to reflect certain traffic flows, yes, sir, that's correct.

Q Did you also start before you began this case with a diversion matrix that had been developed by DMS?

A We had -- yes, sir, we did have, as a matter of fact, we actually had -- we have used several divesion matrices. Yes, sir.

Q And did you begin your work in this case with

one of those several diversion matrices already developed?

A We had a diversion matrix that we had used for previous clients. We have never used that in this case, no. It is our opinion as evaluators that we wanted to make substantial modifications. We wanted to have our own matrix.

Q Now, let's go through the steps. Step 1 in general is to assemble the original data base.

A That is correct.

Q Step 2 was to calculate impedences of routes.

A Impedences are calculated. Yes, sir.

Q The impedences were calculated based on the 1982 way bill sample or the impedences were calculated on the augmented sample which included Santa Fe and Southern Pacific traffic.

A My recollection is that the initial impederces were calculated using the ICC way bill sample, and that subsequent impedences were calculated using the entire combined data base, but I would have to check on that to verify it.

Q Now, after impedences are calculated, the next step in general, and we are talking generally now in the procedure, is the selection of one diversion route. Is that correct?

A Well, if you are talking about in this study procedure we had the whole process of developing the diversion matrix, cleaning up the network, the development of the diversion logic, the circuity rules.

Q Now let's look at the processing, sir. That's just what I want to get in my mind. After the network work has been done, and the data base has been assembled, the first step in calculating a diversion is to, for a particular movement, is to find one diversion route which is designated by the network model.

A Based on all of the previous input that we have gone through, which is all designed to select what we feel will be the best candidate diversion route, generally involving the merging carriers, yes, and the process --

Q Selects the one candidate diversion route?

A That's correct.

Q The next step before calculating a diversion from -- by use of the matrix is, first, to have a point where rules will be applied that cut off a movement and say this is not divertible. They are nondiversion rules.

A That's correct.

Q Every movement that is in the pile of nondiversion movements is put aside and is not studied

further.

A Once a decision has been made to reject the candidate route, we do not study that particular way bill further in that iteration. It is studied in subsequent iterations.

Q For further clarification, if the best candidate diversion route selected in the previous step does not include the applicants in it, then the movement that is being processed is treated as nondivertible.

A That's correct.

Q Now, after making this pile of nondiversions, the next step in the process is the application of the diversion matrix.

A Correct.

Q The nondiversion procedure involves a series of rules, and these rules have to do with, for example, circuity of route.

A That is correct.

Q The rule has to do with previous participation or availability of the applicant's routes.

A That's correct.

Q The rules we learned yesterday from SFSP-C-5, Exhibit SFSP-C-5, Mr. Swain, is the statement from --

A Right, I have it here.

Q That is a statement that we received at the

last hearing day, Friday, that explains when we get down to reason code 107, that there's a nondiversion rule and there are exceptions to the nondiversion rule.

A That's correct.

Q Now, after we are through making this pile of nondiversions, we come to what could be diverted, and in the diversion matrix, we have a series of multipliers, do we not?

A Yes, sir, we do. Well, we have -- excuse me -- we have a series of multipliers that we used to develop the matrix. The matrix itself has one multiplier for each cell, with one diversion percentage.

Q In the cell of the matrix is the product of number of multiplications.

A That is correct, sir.

Q One of those factors has to do with the type of the traffic in the sense that it was interline or two interlines before diversion?

A That is the basis, yes.

Q That is one multiplier.

A That is one.

Q There is also a distinction in this diversion procedure by type of traffic. That is, TOFC traffic, automobile traffic, time sensitive traffic, and coal

traffic are dealt with somewhat differently.

A That's correct, sir. They are treated differently to reflect the way the final evaluators would view that traffic.

Q The next multiplier besides the classification and group multiplier is a multiplier that depends on the status of the station at either end of the move.

A That is correct.

Q And that is the multiplier.

A That is correct.

Q And there is a car ownership multiplier.

A In the case of special equipment, if a competing -- if a movement involves system equipment, there is one multiplier. If it involves competing equipment, there is another multiplier.

Q And then there is a route efficiency multiplier sometimes applied.

A That's correct.

Q And then there is an Oregon rule multiplier.

A That's correct.

Q The procedure within a cell of the matrix is to take each multiplier and cross-multiply, to chain multiply out to get a percentage at the end.

A That is correct.

Q And that percentage at the end, if we are in

the pile of movements that are called potentially divertible, that final percentage calculation is applied to the traffic.

A That is correct.

Q The traffic movement, I should say.

A That's correct.

Q The traffic movement, and a diversion is calculated over the selected diversion route.

A That's correct.

Q Now, sir, because these are multipliers, it makes quite a difference if any one of the multipliers change, does it not?

A If you are multiplying a series of numbers, and any one of the numbers changes, yes, sir, that is true.

Q If any one of these numbers, say, is halved, then the final diversion calculated for the movement is halved.

A That's true. That's correct. If any one is increased by 30 percent, it is increased by 30 percent. That is true.

Q In that sense, would you say the diversion calculation is sensitive to the values of each of the multipliers used within the cell of the diversion matrix?

A Of course it is, yes.

Q Incidentally, wouldn't you say that the diversion matrix might also be called a look-up table? Have you heard that term?

A It could be called a look-up table.

Q Now, sir, let's look at some of the changes that your testimony describes in the numbers that occurred as you went through the iterations. First, as foundation, we understand there were four preliminary iterations which we have called the deregulation iteration -- what is the next one?

A The MP/UP merger.

Q The MP/UP merger iteration. And the next one?

A The SP trackage rights to St. Louis.

Q And the last, the DRGW?

A The Rio Grande trackage rights to Kansas City and the simulation of the joint SP/Rio Grande soliciation agreement.

Q After those first four iterations are done, you end up with an adjusted data base.

A That is correct.

Q And that adjusted data base then has applied to it the final iteration, the SPSF iteration.

A That is correct. That adjusted data base

reflects all of the changes that have happened subsequent to the completion of this data base, which was 1982, and reflects matters which will all have taken place by the time the SPSF application or merger takes place as expected in 1986.

Q Yes, we will get to that. I am just trying at this point to give us a framework for discussion.

A Okay.

Q Now let's look at Page 2 of SPSP-31. The aim in the network is to reach an adjusted mileage figure which I believe you call a "efficiency" of the route.

A The aim of the network is to fairly represent the relative way that routes are used today by shippers. The line segment designations were developed initially by the FRA to reflect densities. These densities reflect the way shippers route traffic. Those densities then reflect the efficiencies with which shippers view various routes. It is the same way with the impedences.

Q And on Page 3 of SPSP-31, you explain a two-factor calculation using a logarithmic formula which measures impedences at junctions.

A That is correct.

Q One factor of that formula has to do with the traffic of all railroads at a junction. That is, Kansas

City has a lot of railroads there. There is a lot of business done.

A That is correct.

Q And the other factor has to do with how much goes from one railroad specifically to another railroad in a particular direction at that junction.

A That is correct.

Q And there is also -- you have told us a little earlier on Page 2, the multiplier that you used from a 1977 FRA study, somewhat modified, which multiplies Class B main lines and A and B branch lines by certain factors to extend the miles.

A Actually, the initial network was developed by the FRA in 1977. It was then updated in 1980, and what we are basing this on is the 1980 network.

Q Then when all of this is done, you tell us at the bottom of Page 2, talking about the impedence calculations, that -- from SPSR-31, "Terminal delays, additional car handlings, lack of scheduled coordinations between connecting carriers, and lack of cooperation in solicitation and marketing efforts of connecting carriers over many interline junctions," all of this you say "are implicitly reflected in the impedance calculations."

A That is correct. They are. They reflect the

way junctions are used by shippers.

Q Now, here is a point that is not clear to me, Mr. Swain. If we have just the network model and -- if we have just the network model, may I say to the network model, I have 1,000 cars of traffic moving from San Francisco to Chicago, and may I use the network model to determine how that traffic would move?

A Yes, sir. You may.

Q If I use the network model, will all that traffic go to one route?

A If you use the routing algorithm that DNS uses in the traffic diversion study that we are talking about here, which is to represent the valuations of the evaluators as to how traffic be diverted, you will in fact get one route, because we are not trying to measure global flows over the United States and apportion market shares. We are trying to develop a candidate diversion route that is the best route primarily for the merging carriers.

Q Mr. Swain, I was not at this point asking you about the purpose of it. I asked you specifically, I come to your network model, and I say, I have 1,000 cars of traffic from San Francisco to Chicago, and if I use the network model, will that network model flow, I think is your term, "flow" the traffic to only one route.

A If it all originates at one origin and terminates at one destination, the model will pick one route. That is correct.

Q Therefore, if I took your model and I put to it the actual traffic that moved from San Francisco to Chicago in 1982, and the quantity of traffic that moved from Los Angeles to Chicago, and the quantity of traffic that moved from Kansas City to New Orleans, and all those different point to point movements, if the model massaged those, it would flow all those movements to only one route between any point pair.

A If you do not specify any junctions, you just specified one origin and one destination, the model for each separate origin and each separate destination would calculate a route movement.

Q That is right, and if it calculated the routes for the origins and destinations and quantities of traffic that moved in the year 1982, it would give you a picture of routes used that would be completely different than the actual routes used in 1982.

A I don't know that. I don't know that, and as I pointed out before, the purpose of the model is not to flow traffic over the entire U.S. network. It was never designed to do that. If we were going to do that, we would do it in a different manner.

Q Again, you don't have to tell me about the purpose. My specific question is, if we made this little exercise of saying we have all these traffic origins and destinations, we put them through the model, in each case the model -- let's take Kansas City to Houston -- would pick one route and give all the traffic to that route.

A That is correct, but I want to make one distinction here. You are talking about the model. When I talk about the model, I talk about the entire traffic diversion model. You are talking about one small part of the model, which is the routing. That is just one part of it.

What we are talking about here is the traffic diversion model, which is designed to represent traffic diversions, is not designed as a model to flow, to represent the flows of all traffic over the entire U.S. rail network.

Q Now let's see what happened to the junction impedences and the mileage units which express efficiency of routes in the network model. On Page 2, you say the calculations implicitly reflect all these delays, car handlings, schedulings, and so on, and they also apparently reflect actual usage of junctions.

A That's correct.

Q All this is implicitly reflected, but let's examine now what changes you made to this calculation of implicitly reflecting all these things. First, in many iterations, having calculated all these impedences and obtained numbers in units of miles, you in many cases multiplied those mileages by a factor of .7, did you not?

A We use a .7 multiplier. That has nothing to do with impedences, sir. The .7 multiplier has nothing to do with impedences.

Q I see. The impedences are supposed to reflect the "efficiency" of the route?

A It is supposed to reflect the relative efficiency between various junctions and railroads at those junctions.

Q Now, before using those laboriously calculated figures in several of the iterations you multiplied those figures by .7, did you not?

A I did not, sir. No, I did not multiply them by .7. We didn't multiply them by .7.

Q Let's turn to Page 8 of SESP-31. Let's turn to the fifth and sixth lines of the second paragraph beginning with a little dash. I read you, "For the merging carrier, a system mileage multiplier of .7 was used."

Let's stop there. The mileage that you are talking about is this calculated mileage, calculated to show "efficiency." Is that right?

A No, this is unclear. I understand your problem. This is not clear. When we say a system mileage multiplier of .7, we are talking about the route miles over the line segments. We do not multiply the junction impedences by .7. We only multiply the weighted mileages that are calculated over the merging carriers' routes.

I realize it is unclear from here, because it follows -- well, it is not that unclear, actually. "The basic criteria used to develop traffic diversions was the relative efficiency of various rail routes." That is what we are referring to, "as measured by miles based on line segment weightings plus any interchange impederces. For the merging carrier, a system multiplier of .7 was used." We mean that applies on the line segment mileage, not on the impedence mileages.

Q All right. So let's see. For the merging carriers, you took the route miles and you multiplied them by .7.

A That is correct.

Q Wait a minute. Let's go step by step so that the record is clear. Then you still applied to these

shortened miles the A route, B route main line, A route B route branch line.

A Multiplier. Yes, sir.

Q Right?

A Yes, sir.

Q So for example if you had 100 miles of SFSP branch line miles, you would treat it as 70 miles, and then you would multiply it by four if it were a B branch line.

A That is the outcome, yes.

Q Right. And then you would add to that 280 miles, you would add something for a junction if there were any junctions.

A That is correct.

Q Now, in the iterations that occurred and that we have discussed very briefly, impedences were changed. Is that right? And I want to hear you talk about not changed as a result of the application of the procedure. I mean, before the procedure was used, impedences were changed.

A In a few cases, impedences were changed to reflect the way the evaluators thought traffic would be routed. Yes, sir.

Q The changes apparently were made when you made something we can call a test run of the application of

the unchanged procedure, and the evaluators looked at it.

A That is correct.

Q These test runs, I believe, from Friday's testimony are no longer in existence.

A There are copies of a few of the test runs in the work papers.

Q A few?

A A few. And not always were the impedences adjusted as a result of the test run. They were adjusted in many cases before we even started because we knew this is what we wanted to accomplish. This is the type of route we wanted to either select or the type of way we thought traffic was going to flow.

Q In other words, in the cases where you were changing, which you seem to call resetting impedences, you felt that the logarithmic calculations and the multipliers of line segments and so on were not going to reflect what would happen.

A We felt that in the vast majority of the cases we felt -- there are over 10,000 impedences in the network, and in the vast majority of the cases, we felt that those impedences did reflect what was going to happen. The impedences, don't forget, the purpose of the traffic model, diversion model is to select diverted

routes, and that is what we were trying to do.

We have changed the impedences in those areas where we wanted to make sure we selected an appropriate candidate route, and the actual impedence changes in terms of the total number of impedences are quite small.

Q Give us a number. How many impedences?

A There were no changes in eastern route deregulations. As part of my response to the questions that you asked late Friday afternoon, we have gone through and we have gotten all of the impedence changes. I think in the PFS the MP/UP merger, I think there were at best seven rate impedence changes. There were very few in the SFSP change. There were a fair number in the Rio Grande trackage rights, but that was primarily because Rio Grande did not go to Kansas City, and we had to establish impedences.

Q Sir, my question is number.

A Oh, you want the actual?

Q Can you tell us the number of times you changed or reset impedences?

A I can give you an approximation or I can cite the work papers.

Q Give an approximation.

A Eastern route deregulations, zero. UP/MP

merger, I would say less than ten times. SP trackage rights, my recollection is hazy there, but I would say that was probably not more than ten. Rio Grande trackage rights, there were several, but I don't know what they were. I can't give you a precise number.

Q And the SFSP iterations?

A My recollection is that that is under ten also, but as I say, we have the work papers here. If you want precise answers, we can give you the precise answers.

Q Because the test runs do not exist today, we cannot tell --

MR. WILSON: Objection. That is misstated. Mr. Swain's prior testimony, some of the test runs do exist today.

JUDGE HOPKINS: Some do exist, Mr. Kharasch. You might word that a little differently.

BY MR. KHARASCH: (Resuming)

Q How many test runs -- let's have it in the record, the number of test runs that were made. Were test runs made prior to the production of the first deregulation iteration?

A Yes, it was.

Q How many?

A I am not sure. Two or three.

Q Those exist?

A The complete test runs? No, I don't believe they do.

Q Then were test runs made at the second UP/MP merger iteration?

A Yes.

Q How many?

A That I don't know.

Q Quite a few that time, weren't there?

A There were three or four easily.

Q Easily.

A Yes.

Q And then in the next iteration how many test runs? Oh, do those exist?

A My recollection is, there are sheets from the PRS and the work papers.

Q From the quite a few runs or from just one test run?

A I didn't check that.

Q How many test runs made the next iteration, Number 3?

A Hard to say. Probably three or four.

Q Do those exist?

A I think there are work papers that show some of those results.

Q Some?

A Yes.

Q You say some of those results. Do the test runs themselves exist?

A What I am saying is that we have some of the output of the test runs.

Q The next iteration?

A Rio Grande trackage rights.

Q Were there test runs made?

A There were test runs made.

Q How many?

A Again, this is an estimate. Three, four.

Q Do they exist, those test runs?

A I think there are some sample -- I think there are some results of test runs in the work papers.

Q Some?

A Some. My recollection doesn't tell me how many.

Q Let's say you had four test runs.

A We don't have the results from all four test runs, no.

Q And the SPSP final iteration, how many test runs did you make?

A Six, seven.

Q Do those exist?

A There are work papers with some of the tests, yes.

Q No, I am trying to be precise in my questioning. If there were six or seven test runs made, how many of those test runs exist today?

A I don't know.

Q One?

A At least one.

Q Now, let's make an attempt with -- let's make an attempt to understand more precisely what happened in this process of making test runs and making changes. Let's start with the fundamental question. Suppose the model produced between two points, two possible routes, one of which had a "efficiency" measured by the model of 1,000 "miles" and another that had an efficiency of 1,001 miles. Do you have that in mind? Could that have occurred?

A The model only produces one route.

Q That right. It produces one route by looking at all possible routes, and then finding the one that has the lowest "efficiency."

A The lowest weighted miles, yes.

Q Now, there may have been in the model, in my hypothetical example, some other route that had 1,001 miles.

A That is possible. There may have been a lot of routes that were a lot less efficient. The model picks the route which we think is the best one. That is what we are checking for, and we are evaluating the test results.

Q Take my hypothetical. There is one of 1,001 miles and one of 1,000 miles. And let's suppose that you are looking at a particular hypothetical occurrence, a merger, and let's suppose that the route with 1,000 miles does not contain the applicants in it, the merger applicants in it or the merging lines in it, and the route that had 1,001 miles efficiency did.

Now, may that happen in your model?

A That is precisely why we went through all of the --

Q Mr. Swain, can't you answer my question? The question is simple.

MR. WILSON: Your Honor, I think the witness should be entitled to an explanation.

JUDGE HOPKINS: Let him first answer the question. Then if he wants to explain, do it. But the thing is, he first should answer the question.

THE WITNESS: The answer to your question is yes, but the way we had designed the algorithm here with a .7 multiplier for the applicants' mileage, we had

designed that to ensure that in virtually all cases that situation will not occur.

BY MR. KHABASCH: (Resuming)

Q So your answer is, it could happen but you don't think it would happen frequently?

A That is correct.

Q If it did happen as I have hypothesized, then there would be no diversion calculated from the merger.

A If it did happen that a route were chosen where neither of the applicants were in it, obviously there could be no diversion.

Q Now, let's look at Page 10 of SFSP-31, and let's look down at this time at the Union Pacific System merger iteration, Paragraph B on the page.

A Yes, sir.

Q You tell us there that post-route closing impedences were reviewed and certain changes were specified. What is a post-route closing impedence?

A Those are the impedences that resulted after we completed the eastern route closing study.

Q I see. And then you say, certain changes were specified, and we are referred to Peyff at Page 19 and 20.

A Correct.

Q At the bottom of Page 19 of Mr. Peyff's

statement --

MR. WILSON: Do you have a copy of Mr. Reyff's statement?

THE WITNESS: I do.

BY MR. KHARASCH: (Resuming)

Q We are informed that one of these changes, one of these minor adjustments to impedences, says Mr. Reyff, was a 15-mile impedence assigned to the Union Pacific, Chicago and North Western, Fremont interchange. Is that correct?

A That is correct.

Q Now, I haven't tried to do the logarithms on the formula, but it seems to me that your formula, which is explained at Page 3 of SFSP-31, would never in the real world produce an interchange impedence as low as 15 miles. Is that right?

A That is correct. The impedence that is calculated for the CNW Fremont interchange normally is in the range of 375 to 400 miles. It is changed here, and it is changed in all applications of the model as is the impedence at Streator, Illinois, between Conrail and the Santa Fe to reflect the fact that this is the highest volume single interchange in the United States between two railroads.

All of the interchange, most of the

interchange is accomplished in runthrough service. There is the study performed for the ICC which indicated that CNW-UP interchange at Fremont is virtually akin to single carrier service.

MR. KHARASCH: The question, which has been so voluminously answered, was whether the formula would ever produce an impedence mileage of as low as 15. The answer was, the beginning of this statement, no, it would never produce such a formula, and then we had a long explanation of why they did it. I move to strike the portion of the answer after the answer to my question as not repsonsive.

MR. WILSON: I object to that, Your Honor. He was explaining the reason. He explained that the ICC in fact had a study that supported this action. I think that is part of the response.

JUDGE HOPKINS: I am going to allow that to stay in, but I would advise the witness really in the future to answer the questions. There is no reason at this time to go into -- we will be here forever. He is handling himself generally well, and I can understand him wanting to make everything clear and definite, but you will have a chance if there is any question on that, so try to answer his questions.

If there is a need for an explanation, I will

allow you to, but there is no need for -- in every instance. You can just answer yes or no where it is possible. Thank you.

THE WITNESS: Okay.

MR. KHARASCH: Your Honor, the answer stood?

JUDGE HOPKINS: Yes, the answer stood in that instance.

BY MR. KHARASCH: (Resuming)

Q If a witness in this case had said that there is no way that you could achieve the efficiency of integration of two rail systems without actually integrating, I gather from your last answer that wouldn't be true with respect to the Fremont interchange.

A You will have to excuse me. Would you repeat the question?

Q I wish in the light of your last long answer to a question I didn't ask to ask you whether a witness that said the following was right or wrong: "There is no way that you could achieve efficiencies of integration of the two systems without the integration." With respect to the Fremont interchange that quoted statement is not correct, is it?

A Well, I can't answer that question, because I don't know anything about the level of facilities that

the CNW has at Fremont or the level of facilities that the UP has. I do know that they have a substantial number of runthrough trains. I don't know whether they have integrated facilities. I doubt seriously if they had the same locomotive engine house. I doubt seriously if they had the same rip track. I can't answer your question, Mr. Kharasch.

Q Now, in your long answer, you said that the Fremont interchange was very high volume.

A Yes, sir, it is.

Q Does not your logarithmic calculation formula at Page 3 of SPSF-31 take account of high volumes?

A Yes, sir; it does.

Q Did this happen, Mr. Swain, when it came to the Union Pacific System merger, you made a test run and you saw that the test run wasn't assigning enough traffic to the Union Pacific over the Fremont route?

A Let me explain --

Q Give me the order of the test runs that were conducted in the case of the Union Pacific Syster iteration.

MR. WILSON: Which question do you want the witness to answer, Mr. Kharasch?

MR. KHARASCH: Let's answer the second.

BY MR. KHARASCH: (Resuming)

Q Do you recall the order of the test runs?

A Well, I recall what happened in this instance, because the C&W Fremont adjustment is an adjustment we make before -- every time we recalculate the impendences, we make an adjustment at Fremont, we make an adjustment at Streetor between Conrail and the Santa Fe, and we make an adjustment between Conrail and the Illinois Central At Effingham, Illinois.

These are all high-volume interchanges which, because they are at small stations with aggregate volume of interchange which is very low, results in higher impedances than reflect the actual situation which is

one of run-through service between the carriers at those junctions.

So, as a matter of policy, whenever we update the impedances, we change these three. Now, in this case, apparently we did not change Effingham, because we were concerned with what happened in the west.

But we have always changed Streeter and we've always changed Fremont.

Q Did you change the Fremont interchange impedance prior to making any test run?

A Yes, sir.

Q Then you made a number of test runs.

A Yes, sir.

Q You made one -- excuse me.

When you charged the Fremont interchange, and you say it was prior to making any test run, did you charge it to as low as 15 miles?

A Yes.

Q It was set at 15 miles?

A Yes.

Q Fifteen miles is just about the same as single line service, is it not?

A Yes, sir.

Q Does your memory serve to tell you what changes were made after making the first test run in the

UP iteration?

A Well, the major changes that we made in the UP iteration were a few slight changes in impedances and the circuity rule that affected TCFC. I don't recall precisely when those changes were made, but my recollection is it was early in the process.

Q These test runs, were they scientific random sample runs?

A The test runs would generally be on the first 50,000 records.

Q That's not equivalent to the final selection run which exists and one which appears, for example, as Appendix C to SFSP 31?

Are those the first 50,000 record runs or not?

A Are the first --

Q That's not a very clear question. Let me restate it.

You have described a number of these test runs that were made. You've said these test runs were generally made by running the first 50,000 records.

A That's correct. We had two types of test runs. We had the 50,000 record test runs, and then we had small test samples of records out of the 50,000 which we used to test moves.

Q And when you made a 50,000 record test run, you started from an ordered data base so that some block was selected, or not?

A I don't recall precisely how it was ordered.

Q In the Union Pacific System merger, were there specific test runs made because you wanted to look at particular things, particular phenomena?

A I recall that we looked very specifically at some TOFC moves. Yes, sir. Eastbound, westbound, trailer on flatcar moves to test the circuity rule.

Q Did this ever happen in any iteration, that you made a test, you saw something, you changed a number; it might have been an impedance mileage or some other number in your procedure, or you changed the rule, and then you made another test run to see what was the effect of the change?

A Yes.

Q And if you didn't like the change, could you have made a further change in that same impedance?

A Yes, we could do that.

Q Well, did it happen?

A It did happen.

Q What sort of things were changed once and then looked at and changed again?

A I think we changed some of the impedances a

couple of times to get them correct.

Q You say to get correct?

A To get the traffic flowing, selecting the routes that we thought were the correct routes.

Q You changed the procedures several times in order to observe a result that would get the traffic flowing on the routes that the evaluators thought it should move?

A That is precisely the case.

Q Now, because these iterations were sequential, it seems to me that if you made a change, for example, in the fourth iteration, you didn't go back to the first iteration and make a similar change in the assumptions used to run the first iteration.

Is that correct?

A In terms of impedances?

Q In terms of impedances, yes. And we will get to several other subjects, too.

A In terms of impedances, the CNW impedance stayed the same throughout the study. I think there were very few that did not stay the same throughout the study, and we certainly did not go back -- we never -- I cannot recall encountering a situation in a subsequent study where we thought we had done something that would have had any kind of a significant impact on a price

study.

Q This is making it slow. My question is rather simple. At each stage in the iterations -- and let's talk about impedances first -- you made certain changes.

Now, after a change was made, say in a third, fourth, or fifth iteration, did you go back and make that change in the prior iteration so as to apply that change consistently through all five iterations?

A No, sir; we did not. Not in terms of impedances, no.

Q Not in terms of impedances?

A We didn't do it.

Q Now, there's quite a bit more than impedances which unfortunately we have to get to today in your diversion procedures.

When you made changes in diversion rules or non-diversion rules and when you made changes in multipliers and that sort of thing, did you go -- and you made those changes in a third, fourth, or fifth iteration toward the end, did you go back and make those changes throughout the first and second?

A No. The changes that we made were primarily changes to the rules for rejecting diversions, and each of those rules was specific to the iteration that we

were dealing with.

We did not change the diversion matrix from beginning to end, except to add the Oregon rule which was a specific change for the SFSP.

Q But taking the Oregon rule specifically, if the Oregon rule was developed for iteration 5, you didn't go back and apply the Oregon rule through numbers 1 through 4?

A No, sir; we did not.

Q In fact, no changes made in the computer model that were made in subsequent iterations were carried back and applied consistently in the earlier iterations?

MR. WILSON: I object to the portion of the question that states "applied consistently." Mr. Swain has answered this, however, three times.

JUDGE HOPKINS: He's answered the same question several times, Mr. Kharasch.

MR. KHARASCH: If it's clear, it's clear. As long as the answer is yes, I'm happy.

JUDGE HOPKINS: He's already stated that. At least I heard it.

BY MR. KHARASCH: (Resuming)

Q Does something like the Fremont 15-mile impedance affect a good deal of traffic, sir?

A It's hard to say precisely how much traffic it affects. It does affect east and westbound traffic between California, the West Coast, and east beyond the Chicago Gateway.

Q Did you have any way of determining precisely or estimating within certain boundaries what the effects were of any changes made either in the impedances or in the diversion matrix or in the rules, as you proceeded from iteration to iteration?

A That was why we had all of the test output. We evaluated the changes we made by reviewing the test output. And then in the final output for each of the iterations, we carefully reviewed the impact of all of these changes.

That's one of the things we first looked at when we reviewed those outputs.

Q Now, let's talk about the volume of traffic. Were you able to say that the diversion to the Union Pacific would be so many million dollars more or less if you hadn't made this change or that change?

A No. We were not able to do that.

Q Those 15 miles at Fremont I figure to be either 18 minutes or 36 minutes delay, according to what Mr. Reyff tells us at page 15.

Do you concur with that?

A No, I don't concur with that. I don't think that the impedances represent any specific unit of time. They are supposed to represent the relative way, volume in which junctions are used.

Q And that would implicitly reflect --I believe SFSP 31 tells us the speed of handling and so on, would it not?

A It's implicit. As SFSP 31 indicates, there are many things that are implicit in the setting of the junction impedances. Time is just one of those factors.

Q Now, on the subject still of these impedances, there is a rejection criterion that causes a movement not to be considered for diversion on the basis of circuity. Is that correct?

A That is correct.

Q Let's see if we can sharpen that up. The general rule, at least as used in the SFSP iteration, rejecting a movement as potentially divertible on the basis of circuity, is what?

A Twenty-five percent for carload business.

Q For carload business, what is 25 percent more than what?

A If the operating miles are 25 percent greater in the candidate diversion route, or 25 percent greater

than the operating miles in the historical route, the diversion will be rejected.

Q Let me see if I understand this. If the candidate route for diversion is 120 miles, actual route miles. Is that right?

A (Nods in the affirmative.)

Q And the historic route of movement is 100 actual route miles a potential diversion may be calculated.

A Correct.

Q But if the candidate route is 126 route miles and the actual route is 100 route miles, no diversion.

A No diversion, if that's or an interline movement. If the movement had been a local movement, the circuity would be 50 percent.

Q Now, although you have calculated efficiencies of routes very laboriously at a prior time in your procedures, when it comes to tossing out routes as potential diversion candidates, you look at actual miles, not at calculated efficiencies of routes. Is that correct?

A That is correct.

Q So in that sense, your modeling does not consistently assume that the shipper would select the most efficient route.

A What we're saying is that if you select a a route, even that exceeds a certain threshold of circuity on an actual operating basis, that that would overcome any of the other factors that were used to calculate the weighted mileage.

Yes, we are saying that that route would be rejected, that the shipper would not choose that route.

Q In your work in this case, or indeed in your prior work, Mr Swain, have you ever observed cargo moving on railroads on a rather circuitous route?

A Yes, I have.

Q It does occur in the real world, does it not?

A It does occur, and I think under the Staggers Act it's probably going to occur a lot less because of the increase in competition between rail carriers and vis a vis motor carriers. But it does occur.

Q That's a fascinating field you opened up in your answer, and maybe we'll get to it.

Did you look at any of the actual routings of the Applicants to find if the Applicants indeed were sometimes carrying cargo by a circuitous route?

A We did not look specifically in this case. I had looked previously at some of the Applicant's traffic and found out that, yes, they have carried traffic via circuitous routes and 25 percent -- that was one of the

reasons why, in our first use of the model, we established the 25 percent criteria.

Subsequently, we found out that in the Commission's decision, in the UP/MP case, the Commission said that diversions to routes that were more than 25 percent, that were up to 25 percent, over routes which were up to 25 percent more circuitous than the pre-diversion route, were acceptable diversions.

So that is basically why we adopted the 25 percent.

Q Let's turn away from the fascinating subject of impedance network and establish a little more understanding of how your model works.

Your model goes through the impedance calculations, as possibly changed from time to time, and it selects a most efficient route as the candidate diversion route.

A Correct.

Q Once that route has been selected, the whole efficiency calculation and network model is thrown aside in calculating potential diversion over the selected diversion route. Is that correct?

A It wouldn't be fair to say that it's thrown aside. It's then subject to other screens which are then used to evaluate whether or not it's a proper

candidate for diversion.

For instance, there's a very good likelihood that this route could have taken place before the --

Q I am just saying when we move from the selection of the potential diversion route into the sorting into piles of non-divertible or divertible, and then on into the actual multipliers to calculate a diversion.

After the first point, you're not using these efficiency numbers anymore.

A We are not using the weighted miles.

Q Is that correct?

A That's correct.

Q Now, is there not an exception to that statement, sir? And that suggestion, I suggest to you, is that there seems to be a route efficiency multiplier in the matrix.

A That's why I say, when you say "efficiency," I said "weighted miles;" that concept of efficiency, because we do use the route efficiency multiplier.

Q Please explain when the route efficiency multiplier is used in the matrix.

A The route efficiency multplier is used on TOFC movements when the diverted route is 200 miles shorter than the historical route.

Q Explain "shorter." Weighted miles, calculated miles, or actual miles?

A Operating miles. Six hundred miles for carload traffic.

Q In other words, the route efficiency that is calculated in a network to select a candidate diversion route is not used at all after the point that the diversion route is selected.

A The actual miles are used after.

Q Why isn't the route efficiency multiplier -- why doesn't the route efficiency multiplier use your elaborate calculations of route efficiency?

A I am sort of at a loss to answer that question. What we are dealing with here is, we have gone through a process to choose a candidate route from the routes of the highest density through the junctions that are the most heavily used and viewed by shippers as being the most efficient.

We are now comparing -- we are going to a second level of comparison, and that is the actual operating characteristics of the route, the actual characteristics and operating characteristics in the sense of the actual operating miles, the origin, the destination, the junctions chosen, the status of the shipper of the origin and destination railroad at each end of the route.

We are now moving into what could conceptually be called the second phase, where we evaluate this route, having once chosen it from some very practical viewpoints. So I don't think the two are in conflict.

Q I am looking at Page 5 of SFSP-31.

A Yes, sir.

Q You talk there about route efficiency relative to traffic type also was taken into account. Now, what

you are telling us, I think, is that route efficiency relative to traffic type that you refer to on Page 5 has nothing to do with the efficiency of the route. It simply has to do with its length. Is that right?

A It has to do with its length. It has to do with its length. That is absolutely correct. And we are now comparing it to the actual historical route versus the diverted route. Prior to this point, we don't -- well, I won't say any more.

JUDGE HOPKINS: I think he stopped answering because he figured you might not like him to answer any more.

MR. KHARASCH: Good.

BY MR. KHARASCH: (Resuming)

Q I appreciate that, Mr. Swain. Let's consider for a moment the first iteration, which I believe you told us was called the deregulation iteration.

A Eastern route closings.

Q Didn't you tell us yesterday you called it the deregulation iteration?

A I said it is designed to reflect the route closings that occurred in the east subsequent to the passage of the Staggers Act and deregulation of --

Q Let me see if I understand. The assumption in the first iteration is that because of the freedom of

the Staggers Act, the eastern carriers would close interchanges. Yes?

A The presumption was twofold, that -- there were two aspects of it. One involved intraterritorial traffic. The second involved interterritorial traffic. We were primarily interested in the interterritorial traffic, particularly the traffic moving to the river gateways, and it did reflect the eastern route closings -- iteration was designed to reflect the fact that the eastern carriers would no longer accept interterritorial traffic at internal eastern gateways. They would accept the traffic only at the river gateways, Chicago, St. Louis, Memphis, New Orleans.

Q Now, it might have been that in terms of your impedence calculations, the more efficient route might have carried the traffic, say, moving west-east, deeper into the east than the first iteration assumed it could be carried. Is that right?

A Unlikely. Highly unlikely.

Q And how about from east to west?

A The model would generally route the traffic via the river gateways.

Q The assumption at the first eastern route closings iteration was that the eastern carriers had the power to designate their interchange points and would

exercise that power.

A Had in fact exercised that power.

Q In the year '82?

A Yes, sir. Had not -- yes, had done it in '83.

Q Let's correct your answer so the record is precise here.

A Yes, they had done it in '83.

Q In the year 1983, the eastern carriers had exercised their prerogatives and closed the gateways except the ones they wanted to use?

A That is correct.

Q And that had not occurred in the year '82?

A That is correct.

Q And so you wish to reflect what had happened in '83, and you therefore went through an iteration to charge the '82 traffic?

A In reality, they had started to do this in '82, but the results were unclear. They had just made a start at it, and it was not really fully implemented until 1983.

Q Now, was it your understanding, Mr. Swain, that the Staggers Act gave this power only to eastern carriers?

A No, sir.

Q The eastern carriers in general insisted on getting their long haul?

A On the gateway routing, they insisted on getting their long hauls at the gateway.

Q Would you define for the record so it is clear what long haul means?

A Well, if the eastern carriers originated or terminated the traffic within the east, and it originated from outside of the east, they insisted on receiving the traffic at an interterritorial junction, primarily the river junction on east-west traffic such as Chicago, Streator, St. Louis.

Q See if you agree with this statement.

MR. WILSON: What is the source of the statement, counsel?

MR. KHABASCH: I just wish to read him a statement and see if he agrees.

JUDGE HOPKINS: Why don't we go through this? Why don't you tell him what the statement is?

BY MR. KHABASCH: (Resuming)

Q The statement is from Exhibit KCS-1, Mr. Swain, which is a study prepared for the board of directors of the Santa Fe Railroad.

JUDGE HOPKINS: Thank you.

MR. WILSON: I object for the record to

questions about KCS-C-1 without any establishment that this witness was involved or knows anything about that or the background or the context of the statement or has ever seen it before.

JUDGE HOPKINS: Well, let's see what the statement is and what the question is, and then we will see about your objection.

BY MR. KHARASCH: (Resuming)

Q I will read you two sentences, sir. "The majority of most railroads' traffic is involved in some sort of interconnection with another carrier. This factor is a key to understanding the consequences of major rail consolidations, as wherever possible the combining carriers can be expected to reroute traffic interchanged with unaffiliated companies to the new combination."

Do you have that statement in mind?

JUDGE HOPKINS: You are not still objecting, are you? It doesn't matter where the statement comes from.

MR. WILSON: The statement has been clarified and interpreted by other witnesses, and it is somewhat misleading to ask it out of context without the clarification that, for example, Mr. Fitzgerald has put on it, so I still object.

JUDGE HOPKINS: Overruled.

BY MR. KHARASCH: (Resuming)

Q Do you have the statement in your mind?

A I have the statement in mind.

Q Do you agree with it?

A Well, I disagree with the first part. The first part says that most traffic is interline traffic. I think statistics show that very close to 50 percent, and I think more than 50 percent of the nation's rail traffic moved on just one carrier.

I may be wrong about that. There is no doubt in my mind that carriers and merging carriers try to generate their long haul route. There is no doubt that is one of the economic benefits of the merger. That is what we are trying to replicate here in this traffic diversion study.

Q Now, I am disturbed by a major assumption you have made in this entire diversion study, Mr. Swain, and I am going to lay it frankly before you. You have assumed that the eastern carriers will close routes, and if I understand your statement, your statements, you have assumed that there are no route closings in the west.

A That's correct.

Q Indeed, just by inspection of some of the

hypothetical movements that were generated as alternate routings, I have observed some routes that to my knowledge have not been available for 40 years. My knowledge doesn't go back 40 years.

A That surprises me.

Q I mean, since you assumed everything west of the Mississippi was open, right?

A That is correct.

Q Let me ask a very specific question for example. Let's take -- do you have a piece of paper there?

A Yes.

Q Just write down an O for origin, write down a J for junction along a line --

A Straight line?

Q Straight line, sure, and a D for destination.

A Yes.

Q And let's assume that there is one railroad that goes from origin to junction to destination, through junction to destination.

A I have got it.

Q Now, assume there is another railroad that goes from origin to junction only. In your routing model, as it was applied in this case, and particularly as it was applied to interpret the effects of the SPSP

merger, did you assume that the railroad that could carry all the way from origin to destination would be willing to make a route with a competing railroad from origin to junction, and then the first railroad would carry on to destination?

A Yes, we did.

Q For example, if origin is, say, Kansas City, if junction is, say, Houston, and if destination is a point on the Southern Pacific Line south of Houston which is only served by the Southern Pacific, the Chemical Line we call it, Bayport --

A Bayport.

Q -- would you assume in your model that after merger, the SFSP would be willing to make a route with the MKT to choose a railroad from Kansas City to Houston and then the SFSP would carry it on to Bayport?

A Yes, I believe our policy was consistent with the policy enunciated by Mr. Fitzgerald that the merged system would keep all routes open.

Q I don't so understand Mr. Fitzgerald, but that is not a point to debate with you, sir. I am only asking you a question about what the model assumed.

A The model assumed that the route would be open.

Q Now, do you happen to know, Mr. Swain, whether

today the Southern Pacific with respect to Bayport line traffic will permit the -- will make routes with the MKT from Bayport to any point served by the SP?

A Not specifically. I am not aware of whether there is routing via Houston -- I am not aware of what specifically is available.

Q You had available to you people from both the SP and the Santa Fe?

A That is correct.

Q And the people from the SP and the Santa Fe could have told you if you asked them what the current routing policy in the year 1983 was of the Santa Fe or the SP?

A I did ask them, and this is the response that I got.

Q What response?

A The response I got was that, yes, the SP has closed routes, one. Two, the SP is negotiating with, as I understand it, all of the affected carriers, carriers that have had routes closed by them. Three, that when a route is closed, it is generally to a large extent a two-way street, that there is some difficulty between the two carriers. Those difficulties are not always one-sided.

And three, that the policy of the merged

company would be to keep open routes that presently exist, and to consider on a case by case basis the reopening of routes that may have been closed previous to the consummation of the merger.

Q That is a lovely statement, Mr. Swain. Now, at what time did you have this discussion where the statement was made to you?

A We had this discussion before we even started to -- on the eastern route closings.

Q And that would have been -- I believe you told us that was December or so, 19 --

A When we were setting out the initial guidelines for the study and estimating and determining what procedures we would go through, what iterations we would study. This is when we had that discussion. It was very early on in the process.

Q I see, and so this was before December, '83?

A It was around December, '83. It may have been before, a couple of days, a week or so. I don't know precisely.

Q And it took place as a formal meeting in this discussion, and it was laid out just as you have told us today?

A It was the subject of quite some discussion, and it was not just at one meeting. It was at several

meetings, I think.

Q Have you looked at any of the material that was submitted in this case other than your statements?

A I have looked at some of the materials.

Q Have you looked at the executive testimony as submitted in this case in March, 1984?

A I have -- could you clarify the meaning of executives, please?

Q Mr. Schmidt, Mr. McNear, Mr. Cena. Did you look at those?

A I have not read their statements. No, sir.

Q How about Mr. Fitzpatrick and Mr. Edwards? Fitzgerald.

A Fitzgerald? I read Mr. Fitzgerald's statement.

Q And Mr. Edwards'?

A I have read Mr. Edwards' statement.

Q Can you offer for this record any explanation of why a policy that had been so carefully explained to you in November or December, 1983, never appeared in the testimony of any of the --

MR. WILSON: Objection. Mr. Fitzgerald clearly stated -- I believe it's Page 15 of his verified statement where he set out quite clearly what the merged system's routing policy would be. It is also in Mr.

Fitzgerald's work papers.

His outline for his verified statement prepared in January states what the merged system's routing policy would be. Mr. Fitzgerald has already gone over all this, and I think that the inaccurate assumption in the question is objectionable.

JUDGE HOPKINS: I agree with you. I will sustain the objection.

BY MR. KRAEBSCH: (Resuming)

Q Were you present about this third or fourth week of September at any meeting where a statement as to routing policy of the applicants was discussed?

A No, sir, I was not.

Q If the routing policy of the applicants should be somewhat more selfish than your model assumes, and the applicants would insist that traffic move on their lines when it could move, would your model accurately reflect what would happen after an SPSI merger?

A Sir, I am not convinced that carriers route traffic. I think shippers route traffic, and I think in the east, the railroads in the east have found that out and have gotten that message loud and clear. Now, I don't want to speculate as to what our model would or would not do.

Q Would your model have --

MR. WILSON: Excuse me. I don't believe he has answered yet.

JUDGE HOPKINS: Had you finished?

THE WITNESS: I lost my train.

MR. KHARASCH: That is just as good.

JUDGE HOPKINS: Go ahead.

BY MR. KHARASCH: (Resuming)

Q You say you don't wish to speculate. I wish to speculate with you. If your model had assumed that the SFSP had adopted the routing policies now used by the SP, would it have come to different results in the quantity of diversion?

A You are saying that if we had closed junctions -- is that the thrust of your question?

Q If your model had assumed that routes would not be available to competing carriers between any two points where the two applicants' merged system, SFSP, served, would it have -- would the model have produced different results than the results you show?

A The traffic diversion model?

Q Yes.

A Yes, sir. When we simulated the SFSP merger, we would have shown probably a lower diversion as a result of the merger.

Q Would your diversion have been lower from

people such as the MKT?

A Yes, sir, it probably would have been, because it would have simulated those route closings prior to simulating the merger, because I presume those route closings would occur before the merger. Therefore, some of the losses that are taken credit for in the merger would have already occurred as a result -- could have already occurred as a result of the possible closing of routes.

Q By the UP?

A Possibly by the UP. Yes, sir.

Q Did you attempt to put into the merger anything that reflected the current routing policy of the Burlington Northern?

A No, sir. We have not reflected anything other than open routes.

Q Do you not know, Mr. Swain, from your professional experience that in the year 1982 there were many, many route closings, and it all went through? That is, if they were protested, they nevertheless went into effect.

A My conversations with the Santa Fe and the SP marketing personnel give me this view of the world. I understand that the west went through essentially a similar situation that the east went through. The east

went through a situation of one carrier, Conrail initially, making a very positive and strong bid to close routes intraterritorially and interterritorially.

That move was responded to by the other eastern carriers. Conrail then made a counter-countermove and there was basically a fairly lengthy period of time where the carriers jockeyed back and forth. We give a little here, you give a little there. We modify this, we modify that.

It is my understanding that it was precisely that type of situation that was going on in the west when we started this study, and that that is going on to this day, and that vis-a-vis the larger carriers, what I would call the major four carriers, the BN, the UP, the Southern Pacific, and the Santa Fe, that they have reached a policy of again what I call long and short haul routing between points that are jointly served or commonly served.

My understanding is that they are negotiating, that they are trying to negotiate a similar arrangement with each of the other carriers in the west. I am not familiar with the degree of success they have had, but that the negotiations I have been assured by both the SP and the Santa Fe people are being carried on in good faith.

Q Now, that is the -- well, first you had better explain for us long and short haul routing, please.

A Well, let's use an example. Coming off from a point in Oregon jointly served by the Southern Pacific -- well, from a point in Washington on the BN to a point that is local on the Southern Pacific in Texas, the BN will give the SP a Portland route, and the SP will give the BN a Fort Worth route.

Now, each had their own haul route. Each one serves the destination or origin exclusively. Neither one can make this a single line move.

Q If they can make it a single line move, what is going on with that?

A My understanding is that that prevails. The same long haul, short haul prevails between common points.

Q You say between points commonly served, that is your understanding, between points commonly served, the big four railroads make these arrangements?

A That is my understanding.

Q Between the points served at the beginning and the end, the origin has to be commonly served, and the destination?

A My understanding, yes. So the idea is to have a multi -- a multiplicity of routes available for

shippers.

Q But just be specific about what you are telling us.

A Okay.

Q Two railroads serve the origin route point, and the two railroads serve the destination point.

A Right. The same two railroads.

Q Then they have a long and short haul arrangement.

A I think that is substantially correct.

Q Now, suppose one railroad is the only railroad serving the origin point.

MR. WILSON: I believe that has already been answered. That was discussed initially.

THE WITNESS: I don't think there is any difference.

BY MR. KHARASCH: (Resuming)

Q One railroad serves the origin point. Do you think the tariff structure is such that if one railroad serves the origin point and the other railroad doesn't, that --

A There would still be joint line routes.

Q Joint line routes.

A Yes, that is what I am saying.

Q As between the big four?

A That is what I am saying.

Q Have you looked into the Burlington Northern's requirements for routing lumber today?

A No, I haven't.

Q I think you told me that you were aware that today the Southern Pacific has restricted routing.

A Yes, sir.

Q So what is the year that you are considering in all of your iterations? You are considering that you started with '82 traffic, but you could make some changes because of deregulation for '83. That is the first iteration.

A Eastern route closings.

Q And you are going to reflect eastern route closings, and then you are going to reflect a lot of -- three other things, the UP merger, the DNRGW trackage rights, the SP Tucumcari line.

A That's correct.

Q And you say all of these will have occurred after '82. I am going to put those in here. And then I am going to project the SF merger. I am going to project it in -- as if it were 1983, except it won't be '83 with respect to the route, the routing policies followed by railroads in '83, right?

A I am not saying -- obviously, it is not going

to be 1983 either, because the SFSP merger won't take place in 1983. What we are projecting is what it is going to be like after the SFSP merger, which is scheduled to take place in 1986, if I am correct.

Q If the Commission approves it. Now, let's look at this. Let's look at an effect of the UP merger, and if you will permit, we will look at an effect on my client, the MKT.

In the UP-MP merger, the Commission was concerned about the MKT's access to Mexico. Do you recall reading the decision? Have you read it recently?

A No, I haven't.

Q It is discussed at several points in your testimony.

A I have read parts of it. I have not read the entire decision. It is a long decision. I haven't read it recently. I don't think it is mentioned in my testimony actually. It would be in SFSP-31.

Q The Commission at Page [illegible] of the decision was discussing, Mr. Swain, the Katy's problem of getting access to Mexico for the grain and other commodities carried by the Katy, and the Katy said in that case that it ought to have access to Mexico over the Missouri Pacific because it would lose its friendly connection

with the Missouri Pacific.

The Commission said this: "If the UP-MP transaction is consummated, and if MP ceases to be a friendly connection for MKT, then MKT and SP will have greater incentives to cooperate on grain traffic."

Now, I don't know if you recall having read that sort of detail.

A I don't recall it, but I understand what you are saying.

Q Did you have available people to you or did you know yourself whether in the year 1983 the MKT and the SP had begun to carry quite a bit of grain together to Mexico?

A I was aware that there was grain moving via the MKT and the SP to Mexico. I am not aware of the volume.

Q And this cooperation of the MKT and the SP to get grain to Mexico was indeed predicted by the Commission in its decision in the UP-MP merger, from the sentence I read you?

A Correct.

Q Now, that cooperation of the MKT and the SP was something that happened in the year 1983 more than it happened in '82, did it not?

A Yes, sir, it did. I take your word for that,

yes.

Q That is an effect of the UP-MP merger, isn't it?

A I would say it may well be an effect of the UP-MP merger.

Q And let's say this is a hypothesis --

A I might also add that the possibility existed for those routes previously, and that there was cooperation previously.

Q Let's assume that is 10,000 cars of traffic that used to move MKT-MP, and it now moves MKT-SP to Mexico.

A Okay.

Q I just ask you to assume that. I am not even stating that it is accurate. We will say 10,000 cars. Now, is there any way that your study took account, in taking account of effects of the UP-MP merger, took account of the shift of traffic to the SP?

A Without knowing more specifically about the origins and destinations, it is hard to make any kind of an accurate statement as to what would have happened in the model. If the traffic had been moving MKT-MP in 1982, and there was no opportunity to make this single line move as a result of the UP merger, the UP-MP merger?

Q Yes. Well, it is not a single line move. I don't understand your inquiry.

A Well, there is no -- the UP-MP merger brings no significant benefit to that movement. That is what I think you are saying. We simulated the MP-UP merger and its effect on the two merging partners.

What I am trying to ask you is, would any of that traffic have been affected? Would it have been possible for some of that traffic to have been diverted to single line MP-UP routes? If there was, there is a good possibility that we did that, and that we have already shown a loss to the MKT. That is why it is difficult for me to be precise in giving you an answer without --

Q You are telling us some very interesting stuff, Mr. Swain. Your simulation of the UP-MP merger would have tended to divert to the UP merged system grain moving to Mexico that could move single line that had previously moved joint line. Is that right?

A If the merging partners brought something else to the table, yes, where a single line route was impossible. Yes, sir.

Q And your calculation of the effects of the UP-MP merger on the MKT would have included the effect of losing its traffic to the single line?

A It would have been reflected.

Q UP system?

A That's right.

Q That would have been reflected?

A That's right.

Q What would not be reflected is what the MKT might have done in the year 1983, that is, made some routes with the SP and developed a way to get grain to Mexico by using the SP?

A That is exactly right. We can't -- that's right. We don't know what happened. We can't manufacture new routes for something that we don't know.

Q Now, once your model calculates a diversion to a single line route, it is rather difficult to obtain a diversion back in a subsequent iteration. Isn't that true?

A The diversion percentages for traffic where you don't participate in the prediversion route are lower. The base percentages are lower.

Q Let's look over at Attachment 3. I mean, Page 3 of Attachment A to SFSP-31.

A I have it.

Q Let's say that in the UP-MP merger iteration, a single line UP-MP route was selected as the diversion

route, and we might as well keep our Mexico example. The merged system now has single line access to Mexico.

A Yes, sir.

Q That would be a History Route 1, would it not?

A In which iteration?

Q It would be a History Route 1 in the final SFSP iteration.

A That's correct.

Q That grain traffic would be moving single line now by the UP-MP.

A That's right.

Q When when you looked -- when one looks for all History Routes 1, of which there seem to be five, and we look over on the right, we see that no diversion, no base diversion factor of more than 25 percent can occur.

A That is correct.

Q Even if there is a single line route as the diversion route, no more than a fifth of the traffic is coming.

A That's correct.

Q So in that sense, in your series of iterations, that which has been once diverted to a single line route is sticky in the sense that it is hard to get back by another iteration.

A It is more difficult to compete with a single

line route. Yes, sir.

Q Let's continue for a moment with our discussion of the Mexico grain traffic.

JUDGE HOPKINS: How many more on this particular point, because we are past our break time.

MR. KHARASCH: Oh, any time.

JUDGE HOPKINS: Let's take a 15-minute break.

(Whereupon, a brief recess was taken.)

JUDGE HOPKINS: Let's get back on the record. Mr. Kharasch?

BY MR. KHARASCH: (Resuming)

Q Before the recess, Mr. Swain, we were discussing the model's treatment of traffic which prior to the UP merger would have moved to Mexico in a joint line MKT-MP movement, and in 1983 may have shifted to an MKT-SP-Tex Mex movement to Mexico.

A Yes, sir.

Q And I believe you told us prior to the recess that that traffic shift to a different joint line move MKT-SP would not have been treated in the iteration.

A No, that's correct. Carriers make agreements that traffic shifts like that. An agreement today may not mean an agreement tomorrow. It can change.

Q I am not quite understanding what you added to your answer. An agreement today may not mean an

agreement tomorrow?

A Well, what I am saying is that the MKT-SP agreement today may at some point be later superseded by an MP -- an MKT-MP agreement. Presumably if we are talking about local traffic that the MKT only serves those origins, they could have an agreement with the MP today just like they had prior to the merger.

Q Suppose they were jointly served origins.

A Jointly served origins by the MP? Well, then I would have presumed they would have gotten single line prior to -- why would they go joint line?

Q Let's look at another type of traffic, and that is that traffic carried by the OKT. Do you know what the OKT is, sir?

A Yes, sir, I do.

Q In the year 1982, did the OKT operate?

A My recollection is not complete on that. I do not think that the OKT operated for a good part of 1982, tha they had been previously operated by the MKTKT. The MKKT in effect abandoned that operation and did not resume operations, I think, until late '82. I am not sure precisely when.

Q If in the year 1983 the OKT carried substantial traffic but did not carry substantial traffic in the year 1982, would your model reflect that

fact?

A Obviously, we can't manufacture traffic that doesn't exist. The traffic we handled, what traffic existed in 1982, as I pointed out, the OKKT lines are lines -- the former lines of the Rock Island. They were abandoned once by the Rock Island when it went out of business because it was a marginal operation, and they have been abandoned subsequently by the MKT, so we did not make any adjustments for the OKK -- the possibility that the OKKT might have traffic in 1983.

Q And if there were actually traffic by the OKT in 1983, no diversion effect would be shown because of the SPSF merger.

A That's true. No diversion effect would be shown, but it is not clear that there would in fact be a diversion effect. OKKT, I am not really clear how the SPSF merger would have any significant effect on OKKT traffic.

Q Let's suppose a particular type of traffic, OKT traffic, to the place called Corpus Christi.

A Corpus Christi.

Q Which would be handled today OKT-SP.

A OKKT. And what is the junction?

Q Well, you may have a junction either of Denison or San Antonio. I'm not representing that those are the only junctions. Take Fort Worth, I am advised. Take Fort Worth as the junction.

A Whatever.

Q Right? In the year 1983 let's assume that the OKT carried traffic from origin to Fort Worth and that the SP carried from Fort Worth to Corpus Christi.

A Yes, sir.

Q In 1982 we shall also assume that the OKT wasn't operating.

A Yes, sir.

Q Does the diversion model you had give any effect to diversions of the 1983 OKT traffic?

A No, it does not.

Q If the OKT in 1983 were carrying traffic from a point served by the Santa Fe on this Corpus Christi move, then today your model would treat the Santa FE-SP route as a single line route to Corpus Christi.

A From --

Q A point served by the Santa Fe today and not by the SP.

A Yes.

Q To Corpus Christi, which is served by the SP but not the Santa Fe.

A From a point served by the Santa Fe to a point served by the SP.

Q Yes.

JUDGE HOPKINS: Why don't you ask the question, and you wait until he finishes answering the question?

BY MR. KHABASCH: (Resuming)

Q In your traffic classes that you show on Attachment A, page 3, SFSP-31, a piece of traffic which moved from a point on the Santa Fe but not on the SP to a point on the SP but not on the Santa Fe would, after SFSP merger, be treated as an SFSP single line route.

A Yes, sir.

Q That treatment was not made, we have established, to the CKT traffic, because that CKT traffic did not exist until 1983.

A I don't know -- what adjustment are you referring to? We can't make any adjustment for single line. I am confused.

Q All right, sir. Let's deconfuse. If there

had been OKT-SP joint line traffic in 1982 --

A Which there was some.

Q Fine. For your information, sir, I am informed that that traffic would be some traffic in December of '82.

A Yes, sir.

Q If there had been traffic, that traffic, if it had survived in the model to be a movement subject to SPSF diversion in the fifth iteration, would it have been traffic classified as joint line before merger and single line diverted route?

A It would have been treated as a joint line movement before the merger, and I can't tell you precisely what would have happened in the post-diversion route without knowing more detail. My recollection is that there are very few points on the OKKT that are common with the Santa Fe.

Q All right. Let's take a point that is common with the --

A And it will require that kind of commonality for a single line move for the diversion to occur to a single line movement.

Q Let's take the point of Enid, Oklahoma. I am instructed by my reference to the handy Official Railway Guide that Enid, Oklahoma is a point on the Santa Fe and

also a point on the OKT.

A Yes, sir.

Q And not a point on the MKT's lines.

A Yes, sir.

Q Okay?

A Yes, sir.

Q Now, let's take a movement from Enid, Oklahoma to Corpus Christi.

A Yes, sir.

Q Corpus Christi is not served by the Santa Fe but is served by the SP.

A Yes, sir.

Q The movement we wish to look at is an OKT-SP joint line movement from Enid, Oklahoma to Corpus Christi.

A Yes, sir.

Q If that movement had survived the various iterations and turned up in the adjusted base case ready for the SFSP iteration, it would have been treated as a movement from joint line to single line merged carrier.

A Yes, sir.

Q And I think that would have been a 1A to an A on page 3 of Attachment A.

A Yes, sir.

Q Correct?

A That's correct.

Q If those movements occurred in insignificant amount in 1982 because the CKT was just starting up in December of '82, but in significant amount in 1983, your model would not have reflected the CKT losses on such movements.

A That is correct.

Q Okay. Thank you.

Now, sir, let's turn to the model's treatment of points called exclusive, open and closed. There are two other classifications of points: exclusive, open, closed --

A Open and reciprocal.

Q All right. These are indicated on Exhibit MKT-C-23 at page 19 and 20, and the points are classified E, S, O, R and C, is that right?

A That's right. I don't have the exhibit that you're referring to. I have it in my briefcase.

Q I thought we gave you one yesterday.

A You did.

(Pause.)

All right. Excuse me. I've forgotten what page.

Q Page 19 and 20 of that exhibit, at the very bottom.

A Yes, sir.

Q Cf 19 and the top of 20.

A Yes, sir.

Q It begins to show specific service characteristics at rail origin and rail destination. You use the designator E if the origin or destination was served exclusively by the new rail system.

A That's correct.

Q S is served but open to reciprocal switching.

A That's correct.

Q O is served by the new rail system and by one or more merging line haul railroads.

A That is correct.

Q Who is treated as a line haul railroad in that classification?

A Any railroad that exists in our table of railroads. It is not just Class I railroads.

Q Not just Class I?

A No, sir.

Q So that it would include a Class II railroad?

A Yes, sir, it would.

Q Would it include the Hutchinson & Northern?

A Yes, sir.

Q Would it include the Texas Northwestern?

A Yes, sir.

Q And similar roads?

A Yes, sir.

Q The Hutchinson & Northern serves how many miles from Hutchinson, Kansas?

A I have no idea.

Q The Official Railway Guide shows total mileage, 6, for the Hutchinson & Northern.

A Yes, sir.

Q That would be treated as a line haul railroad, yes?

A Yes, sir.

Q Would short line railroads that connect exclusively with one other railroad be treated as a line haul railroad for the purpose of classifying a station as open or closed?

A Would you repeat that?

Q Would a short line railroad that connects exclusively with only one other railroad be treated as a line haul railroad for your station classification?

A That depends on for the merging carriers a short line railroad that is captive. Stations on the short line railroad where that railroad is captive to the merging carriers are shown as open to the merging carriers. So that even though you have a situation where the merging carrier does not serve -- I have to

think this thing through.

Q Please be accurate. Take your time.

A My recollection is a captive short line railroad, railroads that are captive to the merging carriers are treated as being open to the merging carriers and I think treated exclusively. I can check. It's a simple matter to check. It all goes to the point of raising the diversion percentages on traffic to and from those railroads, short line railroads that are captive.

Q When you check at the break, please check the status of the Texas Northwestern in the SFSP iteration.

A Okay.

Q Were the treatments of railroads, if captive, being treated as open to the merging carriers changed in any of the iterations?

A It was only changed in the Rio Grande trackage rights iteration where for stations in the area covered by the joint solicitation agreement, stations -- since we were merging in the Rio Grande trackage rights agreement the Rio Grande and the trackage rights railroad, stations covered by the solicitation agreement in Oregon and northern California would be considered to be closed to the Rio Grande for purposes of the matrix. And in calculating diversion percentages we used those

as being open. We did not mean they were open for routing purposes, but -- so the calculation of diversion percentages so that we would get a higher diversion percentage.

Q So you'd get a higher diversion percentage to the Rio Grande?

A Yes, sir.

Q I must say your last answer has confused me. I don't think the record is going to be very clear on this.

A And I just realized that my whole train of thought here has been on one subject, and you've been talking on another subject. I apologize for that. I was confusing two issues. You were talking about one issue, and in my mind I was addressing another issue.

Q Let's try to be very precise here.

A All right.

Q I'm looking at pages 19 and 20 of MKT-C-23.

A Right.

Q Which as far as you know are the statements about exclusively S, O, P and C. Are those correct statements?

A Yes, sir, those are correct statements.

Q Now, we're trying to understand what they mean, and we are up to the open station.

A Right.

Q Let's look at a short line railroad that is captive today to the Santa Fe. It goes six miles. We'll assume it goes to the Santa Fe.

A Right.

Q Is that station, first, treated as an open station for the SPSP?

A I think it is treated for diversion matrix purposes, it is treated as served. In other words, we use a higher diversion percentage in those cases than we would use in just -- I can check. This is a simple matter to check at the break.

Q The record, I think, is totally confused. At least I am. The question is you have an origin station served by a short line railroad. That short line railroad goes, we will say, six miles, and it connects only to the Santa Fe.

A Right.

Q My question is would that be given an C, that origin, would that be given an O as indicated at the top of page 20 of MKT-C-23?

A And I am saying I'm not sure whether it's given an O or an S, and I will check that.

Q All right. It would not be given an E as served exclusively by the new rail system, would it?

MR. WILSON: For the record, counsel, it is my recollection that they were given an F.

THE WITNESS: Were they given an F? I'm not sure.

MR. WILSON: I think we need to check that out.

JUDGE HOPKINS: You can check that out at the noon break.

BY MR. KHARASCH: (Resuming)

Q A railroad such as the Texas Northwestern -- let's consider that when we were checking it out.

A Okay.

Q The Texas Northwestern connects with two major railroads. One is the SP and one is the Santa Fe. The SP junction is at Liberal, Kansas. The Santa Fe junction is at a place called Etter, Texas. This railroad is treated how is my question?

A We will check and verify. Rather than speculate, we will check.

Q Okay. Now, are we clear without checking -- look at the top of page 20 of MKT-C-23 -- that you would treat a station as open if it were served by one or more non-merging railroads of any type?

A That's basically correct, yes.

Q Then you would treat a station as F under the conditions you indicate.

A That's correct.

Q And in the R designation does a line haul railroad mean any railroad?

A That's correct.

Q And C is any station not served by the new rail system, is that correct?

A That is correct.

Q That would include, for example, all stations east of the Mississippi not served.

A That's correct. I would like to point out here that the S and the R are -- we know the S and the R from information provided in the SP shipper tape which shows for a large list of shippers the railroads that precisely serve the -- that particular shipper, and the railroads that serve it directly, and the railroads that serve it through reciprocal switching. So that is how that distinction is made.

MR. LEARY: Your Honor, I would instruct the witness, you have a habit of dropping off your voice and putting your hand up, and it gets lost.

JUDGE HOPKINS: That's a good idea.

THE WITNESS: Okay.

JUDGE HOPKINS: Thank you.

BY MR. KHARASCH: (Resuming)

Q Now, if I understood something you told us

yesterday, you told us that you started off with a list of stations shown either open or -- open to reciprocal switching or closed to reciprocal switching from the open and prepay list?

A We started out with a list of stations that are on the network. We went through that list and designated stations as either being open or closed based on a set of rules which are specified in the testimony. And I'd be happy to repeat those if you want me to.

Q I am not understanding you as to a set of rules as specified. I thought you told us you had an SP tape that covered a number of conditions.

A Well, we have a series of adjustments. Would you like me to go through that series of adjustments and show how we started and how we ended up?

Q All right. Let's state it again at this time because I did not understand them to be adjustments.

A Well, we start with a list of stations. We know which carriers serve those stations. We start with actually a list of standard point location codes which are six-digit codes associated with freight station accounting codes. Our first step was to go through the -- well, we had two major rules.

One, for all stations that were east of the Ohio-Pennsylvania border and north of the Mason-Dixon

line, they were determined to be closed to those stations -- to those carriers that serve those stations -- i.e., not open to reciprocal switching -- unless the station was also served by a terminal railroad such as the Union Railroad, the Pittsburgh & Shawmut, PSE, all of which are in Pittsburgh, the Philadephia, Bethlehem and New England in Bethlehem, and the South Buffalo in Buffalo. And there are a whole list of these railroads.

For the rest of the country, if a carrier, two carriers showed as serving the same six-digit standard point location code, and they showed in the open and prepay as having the same station name, that station was considered to be open to both of those carriers shown as serving the point. Now, if they had a different name, if one was at North Smith and the other was at South Smith, they would be shown as being closed.

The first adjustment for this -- that we made to this was using an SP tape which they had developed for internal use where they had gone through all of the jointly served points within the west, as well as points served by the Santa Fe, and looked at each SPLC and determine what area, which areas were larger than just the area covered by the six-digit SPLC.

Let me give you an example of what I mean by that. Chicago has over 22 six-digit SPLCs; in effect,

almost all shippers are open to reciprocal shipping at Chicago. The SP tape combined all those SPICs together. They did the same thing at New Orleans, did the same thing at St. Louis, all the points in the west.

The next adjustment was to go through and use another tape prepared by the SP which had shippers. We put on the waybills the consignee number, consignee-consignor number. That tape shows which railroad serves the shipper directly and which railroads serve the shipper through reciprocal switching.

That information was not put into the network but was instead used as an argument for going into the matrix to determine what the diversion percentage would be.

Now, the third adjustment involved TOFC.

Q Let's stop here. I think we have a very long answer, and I'm going to lose what you're telling me. In general, if two carriers served an SPLC, which you call a SPLC --

A A SPLC, yes.

Q -- and they had the same name for the station -- it was considered open -- this information is coming from the SP tape.

A No. That information is coming from -- basically from the SPLC master file and the open and

prepay.

Q Okay. And then you get to an SP tape, and in that SP tape stations somewhat -- or areas somewhat larger than the six-digit SPIC --

A Are aggregated.

Q -- are aggregated. On the ground that industries within these larger areas would be open to reciprocal switching.

A And that is accomplished -- they developed this tape by going through and looking at the industrial guides and the switching guides for each of the areas that they studied, along with note 31 in the open and prepay.

Q Then some information came on the SP tape as to which railroad served the industry direct and which served it through reciprocal switching.

A That is correct.

Q Did the SP tape show you which industries were not open to reciprocal switching?

A Well, the SP tape had a list of shippers and showed the serving railroad that is served directly, and it showed which railroads served through reciprocal switching. If a railroad was not there, I guess you could presume that it was not open to reciprocal switching.

Q Did you designate the point by an E if it was on the SP tape served direct by one railroad not shown as other railroads serving through reciprocal switching?

A We designated it as served.

Q As S, not E?

A As S, not E.

Q I have been supplied by clients with a list which I surely won't burden the record with.

JUDGE HOPKINS: Thank you.

BY MR. KHARASCH: (Resuming)

Q Of a great number of closed industries on SP/SSW in Dallas. Now, in Dallas was that one of the cities where this adjustment enlarging SPLC areas was conducted?

A I don't remember Dallas specifically, but I assume it was.

Q Now, it happens, sir, I am told, that within Dallas city limits there are some points on the SP that are given other station names -- say Miller, Texas, which is a station on the SP within the city limits of Dallas, I am told.

A Yes, sir.

Q And yet, the SP calls it a different station, Miller.

A That is not uncommon.

Q And is this not uncommon -- how is this not uncommon fact treated in your assembling and designators of stations? Was Miller aggregated within Dallas as an open station?

A I don't know whether Miller was aggregated specifically. I would assume that there is a probability that it might have been. I am perhaps not the most knowledgeable witness about the details of Dallas.

Q Did your organization or the people working with you look at any of these bits of information that were being transferred by tape onto the original batch of data you had in order to refine the classification of stations?

A Yes, sir, we did.

Q Now, did the SP tape contain information as to 100 percent of the stations?

A Which SP tape are you referring to?

Q The SP tape that you used to adjust the master tape.

A Well, there were three SP tapes, as I explained.

Q Well, indicate as to each of them briefly what it contained, and second, whether it contained information as to 100 percent of stations or not.

A The first tape contained an enlarged definition, geographical definition of what major areas and communities within a given area were open to reciprocal switching. I cannot state with any precision whether that is 100 percent or not 100 percent, but it contained -- my information is that it contained their best estimate going through the industrial switching guides and note 31 of the open and prepay, and it included all of the points for each of the areas covered. It included all of the points that were referenced in either the industrial switching guides or note 31 of open and prepay.

Q All right. That was the first tape. The second tape?

A The second tape is the serving carrier tape. Our belief is that that -- this came from the SP -- that that information covered approximately 80 percent of their shippers.

Q And the third tape?

A The third tape was the TOFC tape. The TOFC tape grouped all of the TOFC terminals that were listed in the intermodal guide at the end of 1983 into groups of 100, all the ramps that fell within a radius of 120 miles of other ramps.

Q And did that cover 100 percent?

A I don't know for certain that it covered 100 percent, but I'm certain that they represented to me that it covered every TOFC terminal that was located -- that was mentioned in the intermodal guide.

Q Now, was anything done with respect to Santa Fe stations similar to the use of the three SP tapes?

A The Santa Fe stations were covered in the SP reciprocal switching tape, and there was an effort made on our part to designate for the Santa Fe shippers the correct consignee-consignor number from the SP serving carrier tape.

Q Yes. But did you receive from the Santa Fe any information about the status of shippers such as was on the SP tapes?

A No, sir, we did not. No.

Q I'm having trouble at this point with the designation of a station as served -- that is, an S in your designators -- or exclusive -- an E in your designators. With respect to particular industries and which carrier within an SPIC served a particular industry, did you ever assign to a carrier being the sole carrier serving the particular industry an E?

A Yes, sir, we did. Yes, sir, we did.

Q In what circumstance?

A When that carrier was the only carrier that

was serving that particular origin or destination.

Q Yes. Now, suppose we are within an SPLC where several railroads serve let's say Houston. We're at Houston that several railroads serve. Within Houston there may be some industries, may there not, that are served only by one carrier?

A There are. There may be.

Q Within that SPLC would those industries served by only one carrier receive an E designator?

A They would receive an S designator, served.

Q So E should be understood in your tabulation of points served as a designator only for an SPLC that is exclusively served.

A That is correct. And the logic for this or part of the logic for this is that we have a shipper that is served that is at a station that is served by another railroad, and we have on the tape an indication that he is the only carrier; there's only one carrier serving that shipper.

One of the criteria of the Staggers Act is that -- is to make provisions for the opening of points to reciprocal switching, and there is always the possibility that this could happen.

Q There's a possibility that this could happen.

A Yes, sir, there is.

Q Now, you are touching, it happens, Mr. Swain, on a subject quite dear to my heart. Point to me any instance where the commission has required a single industry served by one carrier to be open to reciprocal switching by another carrier.

A Obviously I can't point to that.

Q Do you know in fact whether that has never happened since the Staggers Act was passed?

A I know that there have been discussions between carriers about that.

Q No. I'm asking whether the Commission has ever required any station --

A I don't know.

MR. KHARASCH: May we have an exhibit to liven things up, Your Honor? We'll distribute an exhibit at this time. May it be marked MKT-C-24, and a separate exhibit marked MKT-C-25?

MKT-C-24 is headed "Explanation of Diversion Percentage Calculations," and refers to a waybill number 178862.

JUDGE HOPKINS: Thank you.

(Discussion off the record.)

MR. KHARASCH: Your Honor, for clarity for the record may I say that MKT-C-24 contains four pages. In the upper righthand corner it is indicated as waybill

number 178862. Exhibit MKT-C-25 is listed as -- is a four-page exhibit and with the waybill number is 173863.

(The documents referred to were marked Exhibit Nos. MKT-C-24 and 25 for identification.)

BY MR. KHARASCH: (Resuming)

Q Sir, let's look at MKT-C-24. The origin station is Hamlin, Texas. Would you please turn to page 3 of MKT-C-24, which is a smudgy printout for which I have absolutely no apologies because it was so supplied, and would you look at the last example on the page; and will you confirm that Hamlin, Texas is the origin station?

A Well, I will confirm that the origin SPM station is 4983, and that we call that Hamlin, Texas, and that Hamlin, Texas is the, as it shows here, or that, yes.

Q All right. Now, Mr. Swain, I looked up in the Official Railway Guide Hamlin, Texas, and only one railroad is shown as serving Hamlin, Texas -- the Santa Fe.

A Yes, sir.

Q And then I looked at a map, and I found that Hamlin, Texas is located on a Santa Fe line, and there

are no other railroads around it in Texas within, say, a hundred miles. And it seemed to me that Hamlin, Texas should have been listed in your procedures as an exclusive Santa Fe point, since Santa Fe is the only railroad serving Hamlin, Texas. And yet, I looked at line -- at column 10 of your matrix, and I saw the letter C, and that appears to indicate that this is an open station instead of a station exclusively served by the Santa Fe. How could that happen?

A Well, I would say the reason why that happens is because of the particular origin SPLC shows that there is another railroad that serves Hamlin. That's precisely why --

Q May we have a reference?

A That's why that happens.

Q I'm still not understanding your answer, sir. I show you page 42 of the Rand McNally handy railroad atlas, and if you will look sort of at the bottom of the upper left quadrant, I've located Hamlin, and I'm showing it to you. Do you see that it is on a line that runs from Chillicothe, Texas to Sweetwater, Texas and that Hamlin is 34 miles from Sweetwater, Texas and is located only on the Santa Fe line? Would you confirm that?

A That's what that shows, yes, sir.

Q Now, are you telling us that there's something about the SPLCs that draws a large circle around Hamlin, Texas?

A I am saying that the way you would get that designation -- yes, I'm saying that the way we get the designation as open is that there must be another carrier that is shown in the network as serving that same SPLC.

Q And from inspection of the map, it appears that the nearest carrier would be 34 miles away at Sweetwater.

A Well, as I explained before, it would take also -- a short line railroad would have the same effect, a short line railroad that was in the area of Hamlin. I don't think Rand McNally shows all of the short line railroads. A short line railroad would have the same impact -- could have the same impact.

MR. WILSON: Your Honor, we could check to find out what the precise SPLC for this movement is and supply that information for the record. It's not the kind of thing you can come up with on the witness stand. You'd have to check the data base.

JUDGE HOPKINS: Thank you.

MR. KHARASCH: I'm not asking the witness here.

BY MR. KHABASCH: (Resuming)

Q It seems to me that what the record shows, Mr. Swain, is that Hamlin, Texas is listed as an open station, though there don't appear to be, either in the Official Railway Guide or on the Rand McNally railroad map, any other carriers serving Hamlin than the Santa Fe.

Now, you say if there is a short line railroad, that might explain it, or if the SPIC is so defined that it is a large area around Sweetwater, say, that might account for it.

A That might account for it. It is doubtful that that would be it.

Q It's doubtful?

A It's doubtful that it would be a large SPIC that would be as large as to encounter Sweetwater. Possibly. All I can do at this point is speculate.

Q Now, let's look at page 3 of MKT-C-24. This is a printout of a page which probably is page 35 of Appendix C to your SFSP-31.

A Yes, sir.

Q This was the final selection run of the SFSP iteration, yes?

A Yes, sir.

Q Is there any place, when we look at this printout at the bottom of page 3 of MKT-C-24, where we

can tell whether this was a movement that actually happened in 1982 or whether it is one of the hypothetical movements that had been created by the earlier iterations?

A Well, you can tell, you can infer if you look at the number of carloads, and the number of carloads since the SP and SF samples predominate -- well, one, you can tell whether or not they are in the route. If you have a total number of carloads that are divisible by 5 or 10, you generally have a fair indication that the movement has not been previously touched in any of the prior iterations. If you're dealing with a fraction of cars, I think you can make the presumption that you are dealing with a movement that has been treated previously.

Q What does the waybill number mean on the printout?

A The waybill number is a sequence number of the records in this particular file. It is not a waybill number as you or I know it. It is a sequence number that is unique to this particular iteration.

Q Yes. I think you told us yesterday that you cannot go back by any information that is here and find an original waybill and see what happened to the traffic.

A It would be difficult to do so.

Q Now, looking at the bottom record, and we might as well do this now, we find on the page line, a number 1004, and then it says "Other."

A That's correct.

Q The 1004 is some sort of route code?

A That is a route code, yes.

Q What does the 1 indicate?

A That the Santa Fe originates the traffic.

Q And the 4 at the end indicates?

A That the MKT terminates the traffic. I think that's the MKT.

Q Yes.

What is forward revenue. What does "forward" mean or "forward revenue"?

A "Forwarded" is a class of traffic. "Revenue" is the gross freight revenue.

Q And that is $21,580?

A Yes, sir.

Q And then it says "loads 10.0."

A Ten loaded cars.

Q Is that actually the movements that occurred in 1982 if this is an original 1982 untouched-by-iteration movement? Or is it an expansion?

A That appears to me to be the way -- an

untouched, not affected by any of the previous iterations adjustments.

Q Yes, but did ten cars move, or is that an expansion?

A Oh, that's an expanded number.

Q Would it indicate one car moved and you multiply by ten, or two cars moved and you multipled by five?

A I can't tell from this.

Q There's no designator on this that would classify this movement as one that was a hypothetical movement or an actual 1982 movement?

A I'm not sure that -- these movements are from our sample and have been annualized and expanded. There is no indication on here that these are expanded records. But they are.

Q I'm going back to my earlier question. None of the numbers printed out with respect to this item, the fifth item on page 3 of MKT-C-24, none of the numbers or designators or codings indicate whether this is a hypothetical movement created by a prior iteration or a movement that was in the base case.

A As I stated before, there is no precise designator by looking at the number of cars. If you see a fractional number of cars, you can assume that the

movement was treated in one of the previous adjustments.

Q Okay. Let's continue with the top line. 67.5 percent is diverted. That's the diversion percentage for this movement.

A That's correct.

Q Then you go to the next line. The waybill number you have explained. That is not the waybill number, but a number applied to a movement, I guess.

A The sequence number for this particular movement.

Q Is the same as a record in your other references?

A Yes. For -- well, yes. For this purpose, yes, sir.

Q Then you have something called "reason code" and the figure 2 appears.

A That's right.

Q In this case, that is a diversion reason code.

A Reason code 2 means it is acceptable for diversion.

Q Then it says "records: 1." What does that mean?

A This is one record. This is not a record that

has been combined where we've had another number of records combined.

Q If the record number if larger than a 1, it meant in the original beginning, when you were forming your 1983 data base, you had aggregated a number of movements into one movement.

A Well, now you've got me. I think that's what this means, but it could also mean that for the purposes of this report, this report is showing records that have been aggregated. The records for this report are aggregated differently than records were aggregated in the data base.

As a matter of fact, what I'm showing here are the records. These are already aggregated records. This one is not an aggregated record, but others would be.

Q Let's finish this and then we'll go back to understanding that point you just made.

Then we have a designator 01: farm products. That's an STCC code?

A Yes, sir.

Q Does it include grain?

A Yes, sir; it does.

Q Then we say original route, and then we have a heading called "railroad," and a column called "miles,"

and a column called "short."

A Correct.

Q The number and the initials under the column "railroad" indicate number 22 Santa Fe. That's the number you give to Santa Fe.

A That is the special AAR interchange number for the Santa Fe Railroad.

Q Then under "miles," you have 284; and under "short," you have 219. Explain that.

A The figure under the miles are the operating miles on the network. The short line miles under "short" are the short line miles between the two junctions shown in the route, regardless of railroad.

Q And moving over to the diverted route, over here you show -- the one route shows it as the best diversion candidate by the network.

A Correct.

Q And now we have a location code again. 4983 is Hamlin, 6986 is Sherman; right?

A That's correct.

Q That is this SICC -- SIC?

A No. The numbers beside Hamlin, Fort Worth, ad Sherman?

Q Yes.

A Those are SPF stations which are nodes, which

represent nodes within the FRA network. All stations are coded into nodes.

As I explained in my testimony, there are 15,500 nodes and all stations are coded to those nodes. That is the internal model number for the node which Hamlin is coded to. In fact -- well, that's the node number.

Q Hamlin is a node on your network?

A Hamlin may be a node on the network, or Hamlin may be included in another node. The names for the nodes are based on the highest volume stations at the node.

Q Can you assure me that the nodes have nothing to do with the designation of stations as exclusively served open or closed?

A That is correct. That's why we need to know the standard point location code.

Q And if we read off to the right, we see that a diversion route chosen for examination is Hamlin to Sherman via the SPSP. Is that correct?

A That's correct.

Q And the railroad number 1477 is the number you gave to --

A That's correct.

Q And there again, the miles are the route miles

and the short line miles in docket 29?

A They are the short line miles calculated by our network.

Q By your network?

A By our network.

Q I see. Okay.

And now we haven't mentioned the divisions, but I think those are simple. The divisions shown over at the left half of the table of 60/40 were calculated by the formula you have explained?

A Yes, sir.

Q The formula calculated divisions. And the division of 100 simply indicates the SFSP in the diverted route gets all the money.

A Yes, sir.

Q And then down at the bottom, you give -- after giving totals of the route miles and the short line miles, you give the revenue changes.

A That's correct.

Q MKT minus $5826 and the SFST plus $5826 dollars in this case?

A That's correct.

Q Now, what's the use of the short line miles. That was not used in any circuity calculation.

A Short line miles are used in the calculation

of divisions.

Q Only?

A Only.

Q Mr. Swain, let's talk a minute here about railroad power under the Staggers Act. Would you agree that a railroad has the power under the Staggers Act to say from any station exclusively served by it, in your sense of exclusive, where you would give an E designation, that if it were designated E, that railroad under the Staggers Act has the right to make or not to make joint routes with any other railroad as it chooses?

A I would agree that a railroad under the Staggers Act has the prerogative of agreeing to or not agreeing to participate in routes with other carriers.

Q And if I understood your earlier testimony, the stations that you would mark S in your coding would, at least in many instances, be stations that a railroad would have the power under the Staggers Act to make a route or not make a route?

A Railroads have the power to make or not make a route at all the stations, regardless of whether they are E, S, O, or P.

Q And at the E stations, the railroad's choice of route would control all the traffic's movement if it

is going to go by rail from that station?

A That is correct.

Q And at some or all of the S stations, is that same factor present; that if the traffic is going to move by rail, it must move by a route designated as acceptable by the railroad serving it?

A Yes. That railroad has to participate. The serving railroad would have to participate in the route.

Q And the traffic must move by a route that that railroad designates at S stations as well as E stations?

A For shippers that are only served by one railroad, I am saying that; yes. The route would have to have the participation of the serving carrier, obviously.

Q But you have indicated that -- in your defintion -- that an S station is open to reciprocal switching. Is that right?

A Yes, I have.

Q But we have also agreed, I believe, in an earlier discussion that an industry at an S station may be exclusively served.

A I have agreed to your point, sir.

Q Now, if we go back to SFSP 31 and we look over

to page 5, you describe certain multipliers that you are going to use or that are used in the diversion matrix to multiply the basic traffic class diversion percentage.

Do you see that?

A Yes, sir.

Q One of the questions left with you yesterday, sir, is whether there is anywhere in SFSP 31 or the testimony of witnesses Keyes, Reyff, Swain, Guerin, or elsewhere in materials filed by the Applicants in this case, an indication of what these multipliers are, other than the 1.0 multiplier.

A Yes.

Q Can you tell me now?

A Can I tell you now?

Q Would you please?

MR. WILSON: For the record, this was Question I in a whole group of questions. I don't know when, but at some point to logically fit the group of questions that Mr. Kharasch asked, we need to have that answer in the record.

Obviously, it would not be a good time right now. Perhaps right after lunch would be a good time to go through that answer.

JUDGE HOPKINS: Mr. Kharasch, wouldn't it be a good idea after lunch to let all of them be answered,

and then --

MR. KHARASCH: The purpose of speeding up things was to leave the witness with these over the weekend so we could go through with cross-examination briskly. We'll get to it. If it makes Mr. --

JUDGE HOPKINS: I just meant if you put them all in the record and then you could ask the individual questions as you go along, but at least they're all on the record -- the answers to those questions.

But go ahead.

BY MR. KHARASCH: (Resuming)

Q Now, is there any table showing these multipliers, other than the 1.0 multiplier that exists in SFSP 31 or Reyff, Swain, or Guerin's statement?

A There is no table in any of our statements. There is a paper in the work papers. It's in Mr. Reyff's work papers at 147. I think there are references to it in my work papers.

There is also a description of the multipliers and how they are applied in DOT-C-2, which was passed out last Friday.

MR. KHARASCH: Can we be off the record?

JUDGE HOPKINS: Off the record.

(Discussion off the record.)

MS. REED: Your Honor, I'd like to have marked

for identificaton DOT-C-2 which is the response tc the United States Department of Transportation questions on DNS Traffic Diversicn Study.

JUDGE HOPKINS: Thank you. That will be marked fcr identification.

(The document referred tc was marked Exhibit DOT-C-2 for identification.)

MR. KHARASCH: While we are marking, and then we can have a lunch recess, why don't we mark the rext MKT exhibit in order as MKT-C-26? And Mr. Swain can have the pleasure cf that over the weekend.

This will be 26, a one-page exhibit, Apparent Service Characteristic Multipliers.

JUDGE HOPKINS: That will be marked for identificatien as MKT-C-26.

(The document referred tc was marked Exibit MKT-C-26 for identificatien.)

JUDGE HOPKINS: Off the record.

(Discussicn cff the record.)

JUDGE HOPKINS: Let's be in recess until 1:35.

(Whereupon, at 12:35 p.m. o'clock the hearing in the above-entitled matter was adjourned, to reconvene

at 1:35 p.m. o'clock, this same day.)

AFTERNOON SESSION

(1:35 p.m.)

JUDGE HOPKINS: Let's get back on the record.

Is there any reason why he can't read all those answers to those questions now, Mr. Kharasch?

MR. KHARASCH: I would rather finish, if we can, this piece where we are understanding --

JUDGE HOPKINS: Okay.

MR. WILSON: Your Honor, there was one point of confusion before the break.

Whereupon,

NEWTON D. SWAIN

resumed the stand and was further examined and testified as follows:

THE WITNESS: I was confused about the Hutchinson Northern example you gave me. The Hutchinson Northern is a short line railroad that connects both with the MP and the SP. For matrix purposes that would be shown as open. If we were talking about a short line railroad that only connected with one of the merging carriers or both of the merging carriers but only with a merging carrier, for matrix purposes that would be shown as exclusive.

CROSS EXAMINATION -- Continued

BY MR. KHARASCH:

Q So you think the Texas Northwestern, whose connections I gave you, would be treated as exclusive?

A That would be treated as exclusive.

Now, there was another point of confusion about the use of served versus reciprocal. If the shipper is served, in essence, the information that is shown on pages 19 and 20 of your exhibit, which I don't have the number, MKT-C-23, is correct; and I misspoke when I said that you had to be -- you had to have a line haul railroad -- I mean when you didn't have to have a line haul railroad. You could also have a short line railroad.

Q I'm not sure I understand your correction, sir.

A Okay. If the shipper is served by both -- if the shipper served by a line haul railroad, by one of the merging carriers, it is classified as an F. If the shipper is served by a non-Class I -- a non-line haul railroad -- in other words, a short line railroad -- but not one of the merging carriers, it is shown as open, not as reciprocal.

I had previously said it would have been shown as reciprocal. It is actually shown as open.

Q And if the shipper is served by a line haul railroad that exclusively connects to one of the merging carriers, it is an F?

A If the shipper is served by a line haul railroad, not one of the merging carriers --

Q Suppose the shipper is served by a railroad that connects only with one of the applicants.

A If the shipper is served by a railroad, if the movement originates on a railroad that only connects with one of the applicants, it will be shown as exclusive.

Q If the shipper is served only by one of the applicants and the shipper is at a station where other railroads serve the station, and if the industry is closed, how is it -- to reciprocal switching -- how will that be shown?

A It will show as served.

Q S?

A It show as S.

Q A very kindly expert at the luncheon break told me that he thinks he understands how Hamlin got to be listed as an open station, so let me try it on you.

A All right.

Q Do you use four-digit or six-digit SPLC codes?

A We use six-digit SPLC codes.

Q Is Texas one of the largest states in the Union?

A Yes, sir, it is.

Q Will six-digit SPIC code areas be larger in Texas than they would elsewhere?

A Yes. Could be.

Q Is it possible, then, that Sweetwater, Texas and Hamlin, Texas, 34 miles away, are in the same SPIC code?

A It is entirely possible.

Q If that were true, despite the fact that Hamlin is served only or exclusively by the Santa Fe, would it have been listed as an open station?

A It would have. As I said earlier, there are two possibilities. That is one, and the other is that is a short line railroad..

Q I've checked the other possibility. The Rand McNally Rail Atlas lists all the short line railroads that anyone has ever heard of, dozens and dozens of them.

A I think they may list all the short line railroads. Do they display them all?

Q Even the Hutchinson & Northern.

A That's a relatively famous short line.

Q It is now.

A Famous may be an overstatement.

Q When you are classifying the type of movement -- as long as we're on the subject of short line railroads and such -- if a movement moves on a short

line movement from origin, comes to a point and is picked up by another railroad and is carried, let's say, first to destination. Let's say that's an applicant's move. O to J, which is junction, and then to D.

A Yes, sir.

Q Origin to junction is six miles by some short line that connects only with the applicant's line, and the next 500 miles are by the applicant.

A Yes.

Q To destination. Do you understand the hypothetical?

A Yes.

Q Is that listed as an interline movement or a single line movement?

A For purposes of the matrix, I think we did not use the short line designation as the 1A to A categorization.

Q I'd like you to be very sure. Your answer said you think you did not.

A I can check that relatively quickly.

Q I think it may not be so. I suggest to you that whenever you listed a railroad in your list, it was counted as an origin railroad.

A That's not my recollection, but --

Q Please to check.

A I have an expert here who I can ask.

JUDGE HOPKINS: Off the record.

(Discussion off the record.)

JUDGE HOPKINS: Back on the record.

BY MR. KHARASCH: (Resuming)

Q Your expert doesn't remember either, right?

A He doesn't remember off the top of his head, that's correct, yes.

Q I think since we've been over and it was helpful on the record to be over the how to read the little printouts that were in MKT-C-24, I'd like at this time to get your explanation of how to read the summary sheets that appear on the printouts which are the selected route printouts in two iterations: one the MP-UP and one the SFSP.

MR. KHARASCH: Let's mark if we could, Your Honor, as MKT-C-27 the first page of diversion detail, Pacific Rail System, and as MKT-C-28 the last page of the printout for the MP-UP diversion. That would be 27 and 28.

And if we could also at the same time mark as 29 the first page of diversion detail, Santa Fe-Southern Pacific, and as MKT-C-30, the last page of the computer printout, diversion detail, Santa Fe-Southern Pacific. There are four one-page exhibits, Your Honor.

JUDGE HOPKINS: They will be marked for identification as MKT-C-27, 28, 29 and 30.

(The documents referred to were marked Exhibit Nos. MKT-C-27, 28, 29 and 30 for identification.)

BY MR. KHARASCH: (Resuming)

Q Mr. Swain, would you look at MKT-C-27? This is page 1 of the selected movement printout at the end, I think, of the MP-UP merger iteration, is that correct?

A That's correct.

Q And would you look at MKT-C-28, and that is what is printed out on the last page of that iteration.

A That's correct.

Q And 29 is the first page of the SPSP iteration.

A Yes, sir.

Q And MKT-C-30 is the last page of the printout of selected movements for the SPSP iteration.

A Yes, sir.

Q Let's look at MKT-C-27 and examine what information appears there on the first page. The first line says, "Share of diverted waybills shown, 1 in 50," is that correct?

A That's correct.

Q Does that mean you took 1 in 50 waybills in

the data base in some form for printout here?

A What we did was we went through the file, we took every 15th waybill that was diverted. Well, let's stick with the diverted traffic -- every 15th waybill. After this is done, we produce a report which is the detailed report which you have previous questions about, which is a further compressed report of all records of the 1 in 15 that were compressed, that were combined. So that, in essence, we get more than a 1 in 15 sample.

Q I'm not understanding. What is the 1 in 50?

A Sir -- oh, I mean 1 in 50. I'm sorry. I was thinking about the SISP. One in 50.

Q I don't understand. The study examined 1 in 50 waybills that were diverted.

A The report -- that's what I'm trying to explain. The report -- we have a file of waybills. This strictly refers to what is shown in the output report. We have a file of waybills. We go through for the diverted traffic. We pick every fiftieth waybill in this long file of waybills. We then take these -- we want to produce a report which groups all like records. So for the fifteenth waybill, if there are other records that are like that --

Q Excuse me. For the fiftieth.

A Fiftieth. I'm sorry.

Q One in 50 is your progression on this case, yes?

A Sorry. I'm used to thinking in terms of the SFSI.

We take the fiftieth waybill. We further collapse those files to show all of the records that had the attributes on that fiftieth waybill, come out with a sample of records that are produced in the report which are greater than 1 in 50.

Q How much greater?

A It depends on the iteration. In this case, of the 199,000 route records read, we produced a report of 21,531. No, I take that back. The records read were 2,540. We produced approximately 1 1/2 percent.

Q Are you telling us --

A Oh, wait a minute. I misspoke again here. The total route records written in the report was approximately 10 percent.

Q This process of compression of an actual 1982 waybill with like 1982 waybills took place only for the purposes of printing out the selected displays?

A No. The compression takes place at two levels. It takes place at one level for operation of the model, and if you can look at it as a big circle, the compression attributes for use in the model are more

detailed than the attributes that are used in the report, so the report is in a more summarized form than are the data that actually goes into the model.

Q Now, the data the model is processing, the data that are being processed by the model have been compressed only when they are identical almost in all attributes.

A That is substantially true.

Q The data that are compressed in the report which is preceded by a page that appears as MKT-C-27 is -- the selected printouts are compressed on a somewhat broader scale.

A Right. To give you an example, for instance, two-digit STCC, in the detailed report it shows two-digit commodity code. The model operates on records with seven-digit commodity codes.

Q Are you telling me, Mr. Swain, that what I have spent weeks and weeks combing over thinking that they are actual single records of a movement may be compressed records of several movements?

A That is right on the detailed report, sir. It shows the number of records that have been combined to produce that line in the report.

Q And if it shows only one combined, if it only shows one record read, then there hasn't been any

compression except at the initial stage where you had very closely matching movements.

A That is correct.

Q But what is actually processed by the model in your computer is not the stuff that appears between MKT-C-27 and 28 and the sample printouts; it's something more detailed.

A That's correct. The model processes a more detailed record.

Q Now, when you say you picked 1 in 50 for the selected printout, how were the records ordered in that it went 1 to 50?

A My recollection is that the records were sorted by what we call destination pointers, which is in essence the destination station. The file was sorted by destination pointers, which is the equivalent of the combination of destination station and railroad.

Q That is, let's call it record number 1 in the data file from which we're going to pick one every 50, record number 1 is a certain destination. Do you happen to remember what the first destination was?

A It's actually at some point on the Ann Arbor Railroad.

Q I must say I didn't expect that answer. And the first two records, number 1 and number 2, are points

on the Ann Arbor Railroad, and depending on which railroad originated or what, how is the ordering for the set that you sampled?

A I don't recall the precise ordering. I know the file is sorted by destination pointer, and then the next logical sort I'm pretty sure when we do that is the origin pointer.

Q Is there a great deal of traffic that moves from Los Angeles to Chicago and Chicago to Los Angeles?

A Yes, sir, there is a great deal of traffic.

Q Will you please state why the selected printout for the UP-MP merger does not contain any Chicago-Los Angeles traffic that appears to have been in the original data base?

A You're saying that there is traffic -- there is no Los Angeles to Chicago traffic?

Q I am so informed by reliable experts who have pawed through every page of your illegible printout on this, and they tell me there is no Chicago-Los Angeles traffic in it, which traffic was in the original data base.

A In which iteration are you talking about?

Q What you call the BACRAIL iteration, the first page of which in the selected printout is MKT-C-27.

A I find that very surprising because in this

iteration we paid particular attention to --

Q Excuse me. I must correct it. It was secondhand information. There's no TOFC traffic, TOFC traffic, Chicago-Los Angeles, in the printout.

A I'm very surprised at that, because one of the things we looked at most closely in the PRS adjustment was the effect of the circuity provision for TOFC traffic which was designed to keep Los Angeles and Bay area traffic going via the UP-CNW route via Fremont, which is what the UP and the Missouri Pacific had testified they would do.

Q I don't ask you, of course, Mr. Swain, to accept my word. I am informed that there is no Los Angeles-Chicago TOFC traffic.

A Well, I can assure you that it was studied.

Q It was studied. But now I'm coming to a question that really worries me. Suppose you made some such mistake by a glitch in your numerous, numerous computer programs. You didn't include Chicago-Los Angeles TOFC in some way in your total or some other class of traffic.

You've told me that you had some tests. I gather the test runs, which are no longer with us, were a different type. And you've told me you have this, but suppose something happened in the program. How can you

check to be sure that you didn't do such a thing?

A Well, the assurances I can offer you are that all of the evaluators carefully reviewed all of the traffic, all of the output, and we are confident that the model has handled that traffic correctly. We have applied these rules logically and consistently, and we are convinced as a group that there have been no such problems.

Q Now, let me stop on two points. You say in your last answer that you reviewed all of the traffic. I thought we agreed at the outset that there exists no hard copy printout of any of the iterations complete, so you never did review all of the traffic, did you?

A We reviewed all of the movements that were in the sample reports that we looked at.

Q In this case, you say that is one in 50 or one in 500 of undiverted way bills.

A That was the sampling rate. The records that we looked at, as I explained earlier, or actually the way the report was produced produced more than a one in 50 or more than one in 500 sampling of the records.

Q I don't want to get into arcane fields of statistics, but it seems to me what you have told me is that you went one in 50, and if you picked out that 50th movement, you aggregated it, that is, collapsed into it other movements that had certain common

characteristics.

A But on a broader basis.

Q On a broader basis, certain common characteristics, not all common characteristics.

A Not all common characteristics.

Q We will leave that for the statisticians on the subject of sampling. But let me tell you a story, Mr. Swain, and I am going to ask if something like that could happen. This august Commission and its very expert cost finding section produced a report on recyclable material, certain costs.

In that Commission report, tables were provided of cost of certain recyclable materials in certain districts of the United States. We discovered when by permission of the Commission we were allowed to see the Commission's computer processing that produced this that what had happened was, there was a report, all right.

And someone had copied one column to the right in the southern United States which threw everything all off in that case, and upon discovering this we made a motion to correct arithmetic error long after the weighty decision came out and the Commission granted it.

The Court of Appeals, of course, approved

that. Now, that is what happened in that study which came out of this Commission, unbiased and expert cost people.

I want to know how, if such an error occurred in your study, we could ever find it.

A An error of the type of --

Q Simply printing the wrong column, copying the wrong column.

A Well, let's go through --

Q Losing Chicago, Los Angeles TOFC traffic.

A Well, let's go through this. There is only one laborious way to do this, and that is to go through information piece and information piece. For instance, if we had been off on the origin or destination, we would have produced totally irrelevant routes from points that were gibberish.

In other words, if we had miscoded the origin, miscoded the destination, used the wrong file for origin or destination, used the wrong file for origin railroad, all of the origin, destination, and route information would be erroneous.

How do I know that? We have done that. We have done that on occasion, and we have produced routes that show the Santa Fe going from Bethlehem, Pennsylvania, to Portland, Washington, and in fact they

don't.

Q Yes, I have detected some of those in the printouts. Okay, I have detected them. You have detected them. What did you do when you detected them?

A If you go through, if you produce -- I am going through these one by one. The point is that if you have these kinds of mistakes where you misused the wrong information or you have used it, only part of it, you are going to come out of this process with an answer that doesn't replicate -- is gibberish.

In the first place, most of the time the model won't run. If it does run, it will produce results that are just -- you can look at it right away and you know you have done something.

Q You just look at it right away and you know it was wrong. Is that what you are saying?

A In the vast majority of cases, yes.

Q All right, but I am telling you that you seem to have told me that you have looked at one in 50 in the UP-MP merger instance. You have looked at one in 50. And that is all.

A Which has the effect of actually looking, as I said before, at more than one in 50 because of the collapse of records.

Q Collapse of records. But what you are

actually looking at is a record with a selected one in 50 for the diversions, and for those instances where you did not divert, you have looked at one in 500.

A That is correct.

Q All right. Now, let's make my task easier. We are looking at the one in 500 sampling. Suppose there were a gibberish result somewhere in the 499 you didn't look at. How would you know?

A Well, in the first place, if we had done something that is systematically wrong, it will appear throughout the results. It is not something that is going to be hidden. If the model has done something wrong in handling the data --

Q Well, let's say if you have classified Hamlin, Texas, as an open station when it is only on the Santa Fe. Nothing would go wrong with your program handling there, would it?

A If we have misclassified?

Q Well, I tell you to please assume that you have misclassified Hamlin, Texas, as an open station. That doesn't throw your computer run off.

A Well, no, it does not throw the computer run off. We are estimating here hundreds of thousands of moves over a network that encompasses thousands of stations. I am sure there are more than a few stations

that may be miscoded.

I thought you were addressing the generic types of problems where the model is not processing data or not processing the data that it has input to it correctly. We are not talking about cases where the data itself may have been falsely generated.

We are talking about cases where the model itself either just completely mishandles data or is not doing what it is supposed to be doing. That is the type of problem I thought you were addressing.

Q All right. Let's talk about that type of problem. Let's talk about it in the context of the undiverted way bills. Obviously if you don't divert some way bills where in principle you should have by such principles as you adopted for this particular iteration, then the result wouldn't be correct.

I haven't asked you a question yet.

A If we were not diverting things correctly, then the results would be incorrect.

Q The diversion rejections, the preliminary decisions before the matrix is applied not to divert something are important in reaching your final totals, are they not, sir?

A Yes, sir.

Q And those decisions are rather complicated,

are they not?

A They are.

Q And indeed they became more complicated as you went through the iterations, did they not?

A That is correct.

Q I think we can tell by looking at MKT-C-28 how many reasons were there for nondiverting traffic.

A Ten.

Q Did those reasons for nondiverting traffic in this iteration have any exceptions since we learned Friday that there were quite a lot of exceptions in the last iteration?

A I don't recall any exceptions, and just lookingg at this, MKT-28 made me recall something else which I should have mentioned earlier which would perhaps make this whole explanation a little -- go a little faster, and that is the fact that when we are taking the one in 50 sample or the one in 500 sample, we make sure that we have the first 100 examples of each one of these reasons for rejection and nonrejection, so that we are assured of looking at least at 100 cases of each one of these rules.

Q I thought you told us earlier you had 100 cases of A to A1 routes or 1 to A routes. Is that true?

A I don't understand the question.

Q I am not understanding what you are telling us as to the principle of selection for these printouts, which is all that we have to look at. What is the prirciple of selection? It is one in 50?

A One in 50 for diverted traffic.

Q One in 500 for nondiverted traffic?

A Subject to the further criteria that we have to have at least 100 examples of each of the rules for accepting and rejecting diversions.

Q Can you be a little more precise in telling me exactly what the selection program instructed the computer to do in printing out? It instructed it to go from Number 1 to Number 51 to Number 101 in the base?

A I can't be any more specific. I can't explain it in any more specific fashion than I have. I am not going to say any more.

Q I had the impression, perhaps wrong, that in some way you are also trying to get 100 examples of each route classification pair.

A No, sir.

Q You don't necessarily have an A1B type route to an A route 100 times?

A No, sir.

Q Do you have any specific locations that you

are sure to cover?

A No.

Q So locations could be skipped?

A The criteria are as I stated it.

Q Now, you were telling us about why you believed it is not possible that some numbers have been printed out on the wrong column, as happened in the recyclables case.

A My hesitancy is in trying to explain how to explain this. Basically, if the numbers are not -- if the files are not produced correctly, they will not produce the information that is supposed to go in the slot where that information is supposed to go, or the information that goes in that slot will be meaningless.

For instance, in the route portion of the report, if we use the wrong file for designating the railroads or for the 260 junctions, or for the stations, what you will get is either -- the model will either not run or the numbers in those locations or the information in those locations just flat out won't make sense.

Q I agree that it wouldn't make sense, sir, but how would you know that it was there, because --

A Because it is consistently applied. It would make sense throughout the entire report. If we were

misprocessing the data we would produce a report that would show us this very, very quickly.

Q Let's look at MKT-C-28 and see if we understand what this printout is. The first line, this is the last page of what you call the PACRAIL printout. The first line says, you read 199,942 route records?

A That's correct.

Q What is a route record?

A It is a basic record.

Q Basic record after the first compression?

A After the first compression.

Q And to be clear, those route records are at this point the original input after your first iteration, the eastern route closings iteration.

A Yes, sir.

Q Is a route record that was generated in the eastern route closing iteration counted as a new number? Is that a clear question?

A I understand the question, and the answer -- I am thinking about the answer. That is why I am hesitating. The answer is no, because I am not 100 percent positive on this, but I don't think that there are any new route records constructed as a result of the eastern route closings, because we just changed carriers within the route, and everything that happened was 100

percent applied to the route, so it is not a question of creating a new record when you have, say, 50 percent diversion.

Q In the examples of the iterations where you did compute diversions such as this one we are looking at here, the number of route records got expanded? Is that correct?

A Yes, sir.

Q Because you created some hypothetical movements via the UP system?

A We created the new movements, the adjusted movements.

Q And those new movements, and except in the case of 100 percent diversion, it would still leave an old movement in there?

A Yes, sir.

Q And the number of route records would then keep expanding through this business?

A That's correct.

Q Are you telling me that there were 199,942 route records then at the beginning of your adjusted -- at the beginning when you assembled the 1982 data base?

A No, I am telling you that there were 199,000 records that were subject to diversion in this adjustment. Some of the records had been excluded as

being not subject to the impact of the merger.

Q I suppose we ought to make the record clear on that. What movements were excluded from the actual 1982 data base that is not subject to the merger? I suppose a movement between two points in Maine, for example.

A That would be an example.

Q Yes, but what is the general exclusion?

A The general way in which records are excluded is for each adjustment as well as the final merger, we designate a list of competing carriers. The carriers, all of the traffic on those carriers handled by those carriers are candidates for handling by the diversion model, so for instance local traffic on Conrail, local traffic on the Florida east coast would be excluded.

Q But all traffic on the railroads listed on the front, that is, on MKT-C-27, were considered as competing and all other traffic was examined?

A We examined, yes, sir.

MR. WILSON: Is your question with respect to those railroads listed under the competing railroad's title?

MR. KHABASCH: Yes.

BY MR. KHABASCH: (Resuming)

Q All the traffic of those railroads was examined for diversion?

A Yes, sir.

Q And no other railroads?

A Traffic that did not move on one of those railroads was not considered.

Q All right. Returning to MKT-C-28, so that we know what is going on there, the summarized route records written, which is not the title of a pop song, but route records written, 2,540, are what is in this printout.

A No, my recollection is that the number of route records written, total route records written, are the 21,531 that are listed below.

Q How do you get 21,000 route records written on 618 pages?

A These are combined, sir.

Q All right. The summarized route records. What we see is combined route records printed out, and we see 2,540 examples of combined route records printed out. Is that what that means?

A Say that again, please?

Q Look. I have given you the first and the last page of a 618-page selection printout.

A Yes, sir.

Q Does not the figure of 2,540 tell you how many individual records such as appear on Page 3 of MKT-C-24

appear?

A I think that the number of actual records for which we have information in the printout is the 21,531 number.

Q Which you have compressed into 2,540 writings in the printout.

A That is correct.

Q Then we see a figure of 178,411 route records suppressed.

A Right.

Q What does that mean?

A Those are the records that are not printed in this report.

Q Now, let's look at the nondiverted traffic reason codes. We are still looking at MKT-C-28?

A Yes, sir.

Q I am sorry for the illegibility. Now, the computer is beginning to report here in this printout something called way bills. Is that different from route records?

A Way bills and records are the same.

Q Reason code 5, would you read it into the record? It is not legible here. I would think you would know what it is.

A Well, I think it is no or one merging

carrier.

Q In the route?

A In the route.

Q And three-quarters of all route records were classified under this reason code 5.

A That is correct.

Q And we have other reason codes running down, and those are the number of route records that were thrown out for that reason.

A That's correct.

Q Now, these last numbers, like 157,691, that reflects more than is summarized and printed out in the selected printout, doesn't it?

A This reflects the distribution of what happened in the records, yes.

Q In other words, at some point, the computer went all the way through all the route records that you had to process, 199,000, to determine what happened to them?

A Yes, that's true. This report does not -- well, yes, that is basically true, yes. The computer processed all 199,000 records.

Q How big a computer did you use for this?

A We used a Prime 750 with a considerable amount of internal memory. I have forgotten.

Q Is a Prime a very special computer?

A It is a very good computer. I don't know what you mean by special.

Q Is it very large?

A It would -- it is not a small computer. It is a fairly large computer.

Q Give us an idea of the cost.

A Well, we just bought -- in our configuration it would cost somewhere between, new, $300,000 and $500,000, I think, but I am speculating now.

Q Now, reason code 5 on MKT-C-28 is not expressed in the same words as reason code 5 in MKT-C-30, which applies to the SFSP final iteration.

A That's correct.

Q Why was the wording changed?

A Because in the SFSP merger, we would allow diversions to occur when there was a single merging carrier in the diverted route.

Q Did a new sort of program have to be written in order to make a reason code 5 rejection for the SFSP diversion?

A Yes, sir.

Q Does the computer program that operated back in the time you did the Pacific Rail System calculation still exist?

A Does the program still exist?

Q Yes.

A I certainly believe it does. Yes, sir.

Q Let's go down the reason codes very quickly. There is a reason code 7, which I can't read, in MKT-C-28, in that iteration, and there is no reason code 7 in the MKT-C-30, the final iteration.

A That's correct.

Q What happened?

A Well, I am having a hard time reading what 7 is, but it says no new carrier, and I have forgotten --

(Whereupon, a discussion was held off the record.)

JUDGE HOPKINS: Let's get back on the record so that we know what we are talking about.

BY MR. KHARASCH: (Resuming)

Q Reason code 7 in the PRS iteration, the UP iteration, that is, reads what, Mr. Swain?

A It says no new carrier.

JUDGE HOPKINS: Is that it? It looked like something else had been crossed out here.

THE WITNESS: No, that is all.

JUDGE HOPKINS: Thank you.

BY MR. KHARASCH: (Resuming)

Q And there is no reason code 7 by the time you

get to the SFSP?

A That's correct.

Q Yes?

A Yes. Well, that means that --

Q How come?

A We are printing out here the occurrences, a listing of all the reason codes that occur, and reason code 7 did not occur, was not used in SFSP.

Q I understand it wasn't used. Why wasn't it?

A I mean, it was never invoked in the diversion process. I am not saying it wasn't used. I am saying that no diversion was rejected for reason code 7.

Q What is reason code 7? Then explain. No new carrier is not self-explanatory. What is no new carrier?

A There is no -- the carrier in the new route is the same, or in the diverted route is the same as the carrier in the old route. The merging carrier.

Q That didn't happen in the SFSP?

A It did not happen in a way that would cause this to show up.

Q Give me an example of when reason code 7 would apply.

A I am not sure I can, because it is very similar to code 5.

Q No, I suggest to you that it is similar to code 13.

A All right.

Q Let's say this happens. You go to your network and you select the most efficient route, and you come back, and you compare it, and lo and behold, it is the same route that you had before.

A Correct.

Q In that case, there is no diversion calculation.

A That's correct.

Q What reason did that have in the PACRAIL iteration?

A If the on and off junctions are the same, remain unchanged, that would generally fall into reason code 13.

Q Yes?

A If you had an example -- all right. That is where the route is the same. If you have an example where it is an interline move, and the junctions change, but the carrier in the route does not change, that would fall into either code 7 or code 5. Ah, I am now starting to recall what reason code 7 is a little more precisely.

Reason code 7, in the PRS merger, we had a

situation where we are merging three carriers, so that it would be possible to have a UP -- let me be more realistic -- a WP-UP route, so that you could have more than one merging carrier in the prediversion route and you would test that to see if you could add, for example, the MP.

If you came out with a route that was still -- still just had the UP-WP, it would fall in code 7, no new carrier. In other words, the two merging carriers were both in the route. That is my recollection of why.

Q In the SFSP merger, are there not examples of traffic where the selected diversion route does not include the SF and the SP, just as before?

A Yes, those are exceptions to other rules, yes. Well --

Q What I am asking is, why isn't there a reason code 7 for the SFSP?

A My explanation is -- my recollection is, this rule was put in because in the PRS merger we had the possibility of three merging carriers as opposed to two merging carriers, and that rule 7 applies when you had two of the merging carriers in the prediversion route. You only had the two diversion carriers in the postdiversion route. That situation does not apply in

the SFSP iteration.

Q What is the difference between no or one merging carrier in the route, reason code 5 of MKT-C-28, and no merger carrier in diverted route reason code 5 in the SFSP?

MR. WILSON: I believe that was asked and answered, Your Honor.

JUDGE HOPKINS: I am not certain it was, so I will let him answer if he can. He is looking at it to figure out the answer.

THE WITNESS: In the PRS -- I am thinking this through. In the PRS example, clearly if you have none of the merging carriers in the route, no diversion can occur. If you have only one of the merging carriers in the route, obviously that route could have occurred prior to the merger of the Union Pacific, Missouri Pacific, and Western Pacific, and if that route could occur previously, there was no point in assessing any, for instance, increase in length of haul, no sense measuring that as a benefit of the merger when in fact that could have happened without the merger.

In the SFSP, we have changed that rule 5 so that it only applies when there are no merging carriers in the route. There are cases in the SFSP merger where we will allow one carrier to extend the length of its

haul as a result of this merger, and we will claim it as a product of the merger, as a result of the merger.

Q Is the maximum circuity rule the same, reason code 12, in the PACRAIL iteration as in the SFSP iteration?

A The circuity rules are exactly the same with one exception, and that is the exception for CNW at Fremont on TOFC movements where we have a special rule in the PRS adjustment.

Q There is a different statement for reason code 13. Is that -- Does that indicate that reason code 13 has changed between the two iterations? The words describing the rules are different.

A No, I think that is primarily for clarification purposes.

Q You think or you know?

A I think that's -- I don't recall any changes that we made to rule 13.

Q Reason codes 25 and 26 have disappeared by the time of the SFSP iteration. Why?

A Reason codes 25 and 26 were designed to reject diversions that could have been made or extensions to longer haul routes that could have been made prior to the merger. They show in the PRS adjustment as reasons for rejecting diversions.

MR. KHARASCH: Your Honor, I hate to do this, but I didn't understand that. Could we have it read back?

JUDGE HOPKINS: Go ahead.

THE REPORTER: "A: Reason codes 25 and 26 were designed to reject diversions that could have been made or extensions to longer haul routes that could have been made prior to the merger. They show in the PRS adjustment as reasons for rejecting diversions."

BY MR. KHARASCH: (Resuming)

Q Mr. Swain, having had it read back and still not informed, of course, they show in the PRS printout as reasons for rejecting diversions. They are under nondiverted traffic reasons. But why don't similar nondiversion codes appear in the SFSP iteration coding?

A They do.

Q Where?

A Reason codes 107 and 108.

Q And they have just been called 107 and 108 instead of 25 and 26?

A Well, the history is that rules 25, 26, and 27 are all encompassing reasons. If you have the same carrier serving the origin or the destination or the origin and the offgoing junction, you reject diversion

in the PRS iteration. We have allowed that. We have superseded those rules by a rule which has that as its general overall framework, but which has numerous exceptions.

Q And that is what was in that exhibit that we got Friday, the note to you from your associate that explains on several pages the exceptions to rule 107?

A That is correct.

Q It also apparently explains why reason codes 107 and 108 when they are used generate a lot of kickouts, whereas reason codes 13 -- 25 and 26 had no significant kickouts.

A That's correct.

Q Now, let's look at MKT-C-30, and lay it side by side with MKT-C-28, and look at this number of route records read and route records suppressed. If I understand your explanation of these numbers, if we add the 185,978 route records read and we add to them 144,732 route records suppressed, we will have a total of the route records that there are at the time you entered this iteration.

A No, that's not the case. The case is that we start out with 185,978 records. The distribution below is an incomplete distribution of what happens to those records.

Q Have you refreshed yourself over the weekend with any information about the number of hypothetical records that existed in the adjusted data base when you started the SFSP iteration?

A How many records had been adjusted in prior --

Q Well, what I wanted to know in detail, if you knew it, was how many of the route records that appear in the adjusted data base used for the final iteration were hypothetical moves that grew out of the earlier iteration? How many were unchanged movements, actual 1982 movements, and how many were 1982 movements reduced?

A I don't know how many records.

Q We can't deduce anything by comparing numbers at this stage?

A No, sir, you cannot. Let me rephrase that. You cannot do that from the information that we have in these two exhibits. There is a trail which shows a change in the number of records from adjustment to adjustment which could be used to make that determination.

Q Would it tell us how many were created records at this last stage before you ran the SFSP iteration?

A At each stage in the process, we could show what are the number of records. We could start out with

A, go to B, go to C, go to D.

Q You could go from A to B and C to D and --

A And count the number of records at each stage.

Q I could if I had the printout, but I don't have the printout, because it never existed.

MR. WILSON: What printout are you referring to, counsel?

MR. KHARASCH: There never was, I have been told repeatedly there is no printout, no hard copy printout of everything done at each stage of the iteration, so I can't count.

BY MR. KHARASCH: (Resuming)

Q You are saying that you could, Mr. Swain, DNS could?

A We certainly could, and I think your consultants certainly could, because we sent them -- well, we sent them the output files prior at the end of the data base adjustments which served as the input for SPSD, and he also had the basic input tapes, and it would be possible to deduce, I think, from the information we provided to your consultants this information.

Q Well, I thought you told me that there is no designator on any route record that indicates whether it

existed in the 1982 real world or it was created by the iteration.

A I am talking about absolute numbers.

Q The number of records could be shown.

A That is what I am talking about.

Q Suppose we find that the number of records in the adjusted base case is different from the number of records that you pulled from the world in 1982. What will that tell us about what you have created which has disappeared?

A You are assuming that there is a difference in the records. The new records were created as a result of the data base adjustments.

Q I suggest to you, Mr. Swain, that is not logical at all. I take five records, 1982, and let's say your model has diverted them to the UI of those five records.

A Yes, sir.

Q And later on, the model has split up those five records into 15 hypothetical moves. The total change in the number of records will be ten, but the final will lack five original records, and have 15 created records. How can I tell from the difference what has happened?

A Well, I won't argue with you.

Q I am not trying to argue with you. Is my logic correct?

A All I am saying is, you will get a difference in numbers.

JUDGE HOPKINS: We will take a 15-minute recess.

(Whereupon, a brief recess was taken.)

JUDGE HOPKINS: On the record.

MR. LEVY: Our calculation of the time required for cross examination of the witnesses before Mr. Anderson, applicants' first competition witness, suggests that he may come on in the last hour or two of the day on Wednesday, and it would have to be held over until Monday.

We have discussed this matter with applicants, and have a joint proposal that Mr. Anderson's testimony be scheduled to begin on Monday morning rather than to hold him over that two or three-day period, and that would also relieve some of our consultants of the need to travel here for a day to sit to hear an hour or so of his testimony on Wednesday.

MR. WILSON: Applicants are agreeable to this proposal.

JUDGE HOPKINS: What number was Mr. Anderson? I am sorry, I don't have it in front of me. There were

several ahead of him anyway.

MR. WILSON: That's right. It appears the way we are progressing that it may be a concern that won't actually come up. Yes, he is Number 34.

MR. LEVY: But before him remain Mr. Guerin, Mr. Reyff, Mr. Shostrand, Mr. Winner, Mr. Johnson, and Mr. Taylor, and maybe more.

JUDGE HOPKINS: And Dr. Baumol.

MR. WILSON: And the shippers.

JUDGE HOPKINS: All right. There is no problem.

MR. LEVY: Thank you.

MR. KHARASCH: Could we go off the record?

JUDGE HOPKINS: Off the record.

(Whereupon, a discussion was held off the record.)

JUDGE HOPKINS: let's get back on the record.

THE WITNESS: Can I correct one of my answers, or explain one of my answers?

BY MR. KHARASCH: (Resuming)

Q Sure. Which answer?

A The reason --

JUDGE HOPKINS: You are excused, Mr. Calhoun.

MR. CALHOUN: Excuse me, Your Honor.

THE WITNESS: Your secondhand information that

there is no IA to Chicago TOFC traffic in this detailed diversion report is correct.

BY MR. KHABASCH: (Resuming)

Q Is correct?

A Is correct. I had forgotten that we made an exception for TOFC traffic moving between Chicago and Los Angeles, similarly to the multiple car coal shipment decision where those records were not considered by the diversion model. We assumed that they would not -- that TOFC traffic between Chicago and Los Angeles would not be diverted as a result of the MP-UP merger.

Q I was asked to attempt to clear up something on the record about this number of records, which is bothering a number of the experts assembled in this room who hear you, Mr. Swain.

I seem to recall a figure of about 440,000 records drawn to make your data base.

A That's correct.

Q That includes the ICC lump and the SPSI individual lines lump?

A That's correct.

Q That's after the operation to remove duplications.

A That is correct.

Q Then we seem, as we are looking at MKT-C-28

and MKT-C-30 to be looking at different numbers of route records read, and I think you are telling me that the 199,942 route records were read in an MP-UP iteration. That number is smaller than the original 440,000 for two possible reasons.

One, the collapse of two records into one if they were identical to six-digit STCC code and other characteristics, and two, that a large number of records related to railroads other than the railroads listed on MKT-C-27 as competing railroads.

A That's correct. There is a third reason.

Q What is that?

A The third reason is that these records only include interline records, interline movements with other carriers for the applicants, and do not include local movements over the applicants. Those records are not included in the 189,000 or 185,000 or 199,000.

Q Is there an implication in your last answer that you did not consider local movements on railroads other than the applicants?

A No, we did consider local movements on other railroads.

Q And you considered interline movements that had no connection with the applicants?

A Yes, sir, we did.

Q Do you know how many total route records existed as compressed at the first stage of compression by the time you were ready for the final iteration?

A No, I would have to guess.

Q Are the words "competing railroads" to be read literally as they appear, for example, on MKT-C-29? That is, no diversion from any railroads other than these would have been reported?

A No, sir. No. What it means is that all of the -- all of the traffic of these railroads was subject to the evaluation by the model, with the exception of multiple car coal shipments, so that -- well, I don't know that I need to explain that any more.

Q Here is what is confusing me. On MKT-C-29, under the report codes, for example, you show Norfolk Southern.

A Yes, sir, I do.

Q I suppose in the little printouts that follow between the two pages, the first and the last page, there would be some Norfolk Southern diversions.

A Yes, sir, there would be.

Q And are those reported?

A Yes, sir, they are reported.

Q But Norfolk Southern is not listed as a competing railroad?

A When all Norfolk Southern interline traffic with any one of the applicants or the carriers designated as competing railroads was in the data base, their portion of the movement was subject to diversion just as all the other carriers in the route.

MR. KHARASCH: May we have marked, Your Honor, as the MKT-C counsel's exhibit next in order which is MKT-C-31 a four-page exhibit?

JUDGE HOPKINS: That will be marked for identification.

(The document referred to was marked for identification as Exhibit Number MKT-C-31.)

BY MR. KHARASCH: (Resuming)

Q Mr. Swain, we had a little research at the recess, and the recess turned up this example of movement from Etter, Texas, E-t-t-e-r.

A Yes, sir.

Q I believe you told us during our discussion before the recess that if a railroad connected only with one or both of the applicants, a station on that railroad would be considered exclusive to the applicants.

A Traffic that originated or terminated on that

railroad, yes, sir.

Q Please look at MKT-C-31 on Page 1, and you will notice that according to our inspection at the origin you show Etter, Texas, as an open station. That information was drawn from Page 3 of MKT -- excuse me, Page 4 of MKT-C-31 where there is a matrix line, and we found the C designator in the column to show that it was an open station. Would you confirm that by your inspection?

(Pause.)

A Yes, sir. I see that that is the case.

Q Now, in that case, it appears to me that your system, at least in this instance, has listed Etter, Texas, as an open station where your testimony had indicated it would have been marked exclusive.

A I don't recall saying anything specifically about Etter, Texas. Maybe I did.

Q You said that a station on a railroad that could connect only with the applicants would be treated as an exclusive station for the applicants?

A Yes, sir. That is what I said, but I think Etter, Texas, is served by the Santa Fe, is it not?

Q Yes.

A And this movement here shows as originating on the Santa Fe Railroad.

Q Yes.

A And now you are telling me that there is another railroad at Etter, Texas.

Q Yes, it is called the Texas and North Western, Mr. Swain. And the Texas and North Western connects only with the Santa Fe at Etter and the Southern Pacific at Liberal.

A My statement referred to traffic that originated on that captive railroad. That is what my statement referred to. This traffic does not originate on that raiload.

Q So Etter, Texas, is listed as an open station, although it is served only by the Santa Fe and a captive railroad to the SFSP.

A That is correct.

Q And that is the way your model treats it.

A That is the way we -- yes.

Q Are there other examples than Etter, Texas, where a station was listed as open instead of exclusive when the station was served only by one of the applicants and by a railroad captive to one of the applicants?

A I am sure there are other examples.

Q It makes quite a difference, does it not, Mr. Swain, in the matrix calculation of diversion whether a

station is called an exclusive station or an open station?

A It makes a difference in the matrix calculation. Yes, sir.

Q Well, let us look and see if it in fact is much or little. If in your matrix something moves from an open station to a station you classify as S, you multiply the diversion otherwise computed by a factor. What is that? 1.05, is it not?

A If it originates at an open station?

Q Yes.

A And terminates?

Q At a station you classify as S.

A As served?

Q Served by the new rail system, but open to reciprocal switching by other line haul railroads.

A We have a factor of 1.05.

Q And if the station at origin had been classified as E, exclusively served, and it moved to an S station, it would have a factor of --

A 1.41.

Q And a meaning of 1.41 is that the diversion otherwise calculated is multiplied by 141 -- by 1.41; 141 percent of the diversion otherwise calculated would be shown, yes?

A Yes.

Q And if it were an E to O, exclusive to oper, the diversion otherwise calculated would have been 1.05, 105 percent. Is that right?

A That is correct.

Q And may we now call that, as I did, a substantial difference in the diversion is increased by 40 percent if an exclusive station is involved?

A No, it is increased by the difference between 141 and 105.

Q Yes, 36 percent.

A Thirty-six percent.

Q How can I find out, Mr. Swain, supposing I were a suspicious person, how can I find out whether your model treated stations on the Texas and North Western Railroad as exclusive applicant stations?

A I would suggest you go into the data that we provided your consultants and verify that or ask us and we will do that.

Q For a price?

A Since I am on the witness stand, I think the price would be relatively inexpensive.

Q Mr. Swain, this morning Mr. Reyff quite candidly came up to us and corrected -- we will get it into the record later on when Mr. Reyff hits the stand

-- he corrected in many respects several pages of answers given in interrogatories to the MKT. He corrected multipliers and so on, right down the list, quite extensive corrections. We will see them.

Now, we discovered during the time of asking you interrogatories and asking for explanations or examples of these procedures that the only way we could practically do anything is to ask you to do them and pay you for each example. Here we find that examples given to us, those four examples may have been free, as a matter of fact. Four examples were free, I think. That Mr. Reyff, who is obviously a great expert in this field, has made substantial errors.

How can we go about checking other things to see if you have made substantial errors? Have you provided us with, say, any scientific random sample of your diversion operations going all the way through so we could check those to determine error rates?

A Well, we have produced the input data. We have produced the intermediate results at the conclusion of the data base adjustments, and we have produced the final output reports.

Q You produced reports at that time?

A We produced data. We produced reports, and we have produced for your consultants data which provides

-- which has all of the detailed diversions and the non-diversions that have been made from the start to the completion of the process.

Q What he has, as I understand those tapes, he has a report of diversions, but it doesn't show the workings out, that is, what factors are applied to the diversions, does it?

A He has in that file, he has the -- I think he has -- I will check on this, but I think he has got the diversion matrix line number. He certainly has all of the detailed information that went into the model. He knows the actual origin and destination standard point location codes. He knows all of the route information, all of the junction information, all of the commodity information.

Q That is on your adjusted base case?

A We have it on the adjusted base case, and we have it on the post-SFSP merger, and we have it for the preadjusted base case.

Q Can we produce little printouts like these printouts that you have in MKT-C-24, Page 3?

A We can produce and have produced -- you could, yes. You could have produced a report for all of the records in SFSP merger similar to that report.

Q Mr. Swain, the suggestion is that I ask you,

and I do ask you to confirm your answer as to the contents of these tapes after you check your files. Could you do that?

A I will.

Q Looking for a moment again at MKT-C-31, Mr. Swain, do you have that?

A Yes, sir.

Q And you see it goes -- we have read your matrix line, and we have painfully by hand put down the symbols that seem to be indicated on the matrix line.

A Yes, sir.

Q Are we reflecting on MKT-C-31 the order of procedure of your matrix operation after a decision was made that this was a divertible movement?

A Are you saying, is this the procedure for --

Q Have we correctly shown the development of the multiplier that led to the diversion percentage of 70.8 percent in this particular movement?

A Yes, sir, you have.

Q Was there a logic in the treatment in your procedures of a line captive to the Applicants as a line whose point should be treated as exclusive?

A Please repeat that.

Q I thought we had established earlier on the record that you say that within the procedures that you have adopted, you would treat a point on a railroad, a short line that was captive to one of the Applicants or to both of the Applicants, as an exclusive point origin for the Applicants, or destination.

A That's correct.

Q Yes?

A Yes.

Q What is the logic of treating that as an exclusive point?

A The logic is that railroad only interchanges with one of the merging carriers, the merging carriers -- it is like an exclusive point on the merging carriers.

Traffic that originates on those railroads has to be interchanged to one of the merging carriers.

I would like to make just one statement here. Etter, Texas may be another problem like Hamlin, where the SPIC may in fact be a point that is jointly served

by another railroad. We will check that.

Q You mean somewhere within 80 miles, there may be a point served by--

A Sir, I don't think it is within 80 miles.

Q Well, we found that Hamlin was 34 miles from the next point.

A We haven't found anything out about Hamlin yet. We are still going to check on Hamlin.

Q Good. While you are checking on Hamlin, maybe you will check on Etter.

A We certainly will check on Etter.

Q And isn't it generally true that if you have a point within your SPLC, S-P-L-C, Standard Point Location Code area that is served by another railroad, you will not treat any points within the SPLC as exclusive?

A That is true, yes.

Q And we might now look, if you would, sir, over to Exhibit DOT-C-2 on page 6 where there appears to be a listing of multipliers used in the diversion matrix chain multiplication.

A Yes, sir.

Q Classified by B's and C's and S's and R's. Correct?

A Yes, sir.

Q And is it not true that the effect of having

an exclusive origin is, even in your matrix, to always increase the percentage of diversion?

A That is correct.

Q Now, let's drop down to this S situation. And the record shows some testimony from you already on the points that you call S. And let's compare an E to C with an S to C. And let's compare it if C is a point in the east, say New York City.

Now, is it correct, first, that you would treat New York City as C closed?

A Yes, sir.

Q Closed does not mean it is exclusively served by one other carrier, does it? It just means that it's not on the line that the Applicants are on.

A Closed to the Applicants.

Q That might be N, for not on line; right?

A Whoa. Wait. You're going to have to give me the full route here, because for matrix purposes, the designation of the river crossings is what is used on an east-west movement, as opposed to the designation at the eastern point.

Q So New York City doesn't have anything to do with it?

A New York City, no. If it goes through one of the river crossings, it is determined to be open.

Q How about points in the southeast?

A The same way.

Q Same thing?

A Yes.

Q Once you get, say, to Memphis, that's as far as you're going?

A That's exactly right.

Q Or New Orleans?

A Or New Orleans.

Q Okay. So the general meaning of closed, however, in the west is a point not served by the Applicants.

A That is correct.

Q Laredo, Texas is shown as a point not served by the Applicants. Is that correct?

A I don't believe either of the Applicants serve Laredo, Texas. Yes, sir.

Q Assume that there has been testimony in this record which you may or may not have heard, that Laredo, Texas is the principal border crossing into Mexico.

A I understand that.

Q Have you observed that the Southern Pacific indeed carries a great deal of cargo destined to Laredo?

A I know they handle traffic to Laredo.

Q Laredo is treated as a closed point in your model?

A That is correct.

Q Laredo is reachable either via the Missouri Pacific or from Corpus Christi via the Texas Mexican Railway; is that correct?

A That is correct.

Q And indeed, those are the only two ways to reach Laredo. Do you know of any others?

A No, sir, I don't.

Q Now, let's go back to our examination of page 6, your table there. If by any chance points should have been designated as exclusive, but were not designated as exclusive, the effect would have been to lower the diversion. Is that correct?

A There is a difference between exclusive to closed and the others, yes. Exclusive is the highest.

Q Let's look at the origin first. If the origin was misclassified -- that is our hypothetical-- and should have been treated as an exclusive origin, and the destination is either E, S, C, R, or C, the error in the classification of the origin would have caused less diversion to have been taken.

A That is correct.

Q Let's go back to MKT-C-31. On the logic that

caused the decision to be made to treat a point on a railroad captive to the Applicants as an exclusive point, should not Etter, Texas been treated as an exclusive point?

(Pause.)

A You're telling me that there's a short line railroad at Etter, Texas?

Q There's a short line railroad at Etter, Texas that connects only to the Santa Fe at Etter and to the Southern Pacific at Liberal, Kansas. There's no way to get off that short line except on the Applicants.

A Well, it would seem that the two are essentially the same.

Q Thank you, sir, for a candid answer. It speeds things up.

MR. KHARASCH: Your Honor, may we have marked as exhibit next in order MKT-C-32, a two-page exhibit, at this time?

CHAIRWOMAN STERN: It will be marked for identification.

(The document referred to was marked Exhibit MKT-C-32 for identification.)

BY MR. KHARASCH:

Q Mr. Swain, would you look, please, at MKT-C-32

and do you see that a movement is being reported from Kerr, Texas to Houston, Texas, sir?

A Am I looking at one move or two moves? And is the destination actually Bayport, Texas?

Q Oh, I'm sorry. To Bayport, Texas; yes, sir. Would you look over at page 2 of MKT-C-32, which is a reproduction of -- I can even read the page -- page 843 of your selection printout for the SFSP diversion. And would you find this movement at the top, the first example of the page?

A Yes, sir.

Q And it appears to me to be a movement from Kerr, Texas to Bayport, Texas.

A That is correct.

Q And it also appears to me that the movement has been 0.0 percent diverted.

A That is correct.

Q And it seems to have reason code 108 applied. That is for kicking it out.

A That's correct.

Q And that is a single merging carrier serves both end points?

A Serves both end points of the post-diversion route. And also in the pre-diversion route. In other words, there is no extension at all here. This movement

would have taken, could have taken place today before the merger.

Q But what I am not understanding -- and perhaps you will explain to me and the record -- is how a single merging carrier serves Kerr, Texas and Bayport, Texas.

A We're not talking about Kerr, sir. We are talking about the end points of the merging carrier's portion of the route; in other words, the junction and the either origin or destination point that is served by the merging carrier.

The SP in this route, in the pre-diversion route, the SP handled this movement from Houston to Bayport. And in a post-diversion route, the SP will handle it from Houston to Bayport. There is no change in the SP's route. There is no change in -- there is no impact to the merger here, so we reject this route as not being affected by the merger.

Q Then we have simply, in this case, simply misread your reason 108 as it's stated. Your rejection reason 108 --

A Well, I don't think -- well, it depends upon your definition of end points. Yes, sir.

Q Well, end points, if it means origin to destination, that is wrong?

A That's right.

Q You meant something else.

Now, let's pause a minute on the logic of what you're saying here. You are saying if the diverted route has -- I mean the diversion candidate route, perhaps I should call it -- has the merged system in it only at the same points it was in before, in the route before, then there should be no diversion.

In this case it makes perfect sense, does it not?

A That's correct.

Q The SPSP can't get to Kerr, Texas so it can't get the movement all the way.

A That's correct.

Q Now, let's continue that a little bit. Suppose in this example the SPSP could get to Georgetown, Texas where the MKT picked the movement up in the actual movement.

I am making you a hypothetical, sir. Suppose the SPSP could get to Georgetown Texas, but not to Kerr, Texas. How would the model treat this? Would it kick it out?

A Well, the model would have diverted the route to a GRR railroad, Georgetown railroad, SPSP route. And since it occurred in Texas and the originating or terminating point is in Texas -- let me read 108 first.

Q Excuse me, Mr. Swain. So that we can follow along, what are you referring to?

A I am reading the exhibit that we submitted last Friday that details -- has the detailed information of the reason codes, and I'm trying to make sure that we don't misspeak.

MR. FLAGG: SFSP-C-5.

THE WITNESS: The model would have still rejected -- the merger would have still rejected that route.

BY MR. KHARASCH:

Q I think you misspoke yourself. The model --

A Excuse me. The model would have rejected that post-merger route.

Q The most efficient route, we have to assume, because that is the one that's a candidate for diversion, too, might be GPR and then SFSP, and it would be rejected?

A In that hypothetical situation, yes.

Q Yes, in the hypothetical, sir. And why would that be?

A Because the SFSP could have done that previously. And it is not an exception that is covered in any of the exceptions that we have listed.

Q You say the model would have looked at this --

you're using personification terms -- the model would have looked at this and said that one of the Applicants could have extended itself, its haul, longer -- back to Kerr, Texas in our example.

A Correct.

Q Excuse me. To Georgetown.

A Georgetown.

Q Georgetown, Texas. And since it didn't get the long haul before the merger, we don't think it will get the long haul after the merger.

A That is correct.

MR. KHARASCH: May we have marked, Your Honor, as Exhibit next in order, a three-page exhibit called MKT-C-33, I believe.

JUDGE HOPKINS: It will be marked for identification.

(The document referred to was marked Exhibit MKT-C-33 for identification.)

BY MR. KHARASCH: (Resuming)

Q Would you take a moment, Mr. Swain, to locate this movement that's described on page 1 in nice clear type, and see if it is the same movement that appears third on the page as page 2 of MKT-C-33?

A Yes, sir.

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Q Laboriously, we have been able to apply some arithmetic and we seem to come out with the diversion percentage shown. Yes?

A Yes, sir.

Q Look at the original route. Do you see that the cargo was carried from Chicago to Kansas City by the Milwaukee and then by the MKT to Denison, Texas and then by the SP to Waco, Texas?

A I see that.

Q Now, the MKT serves Waco, Texas, does it not?

A Yes, sir.

Q And so one would presume, would one not, that if the MKT could have obtained the move from Kansas City to Waco all the way, it would have?

A I can only presume that for some reason, the shipper who routed this traffic wanted the SP involved i the route.

Q Now, according to this example, did the SP serve the station or the industry at destination?

A According to this matrix line, the SP would have served it through reciprocal switching.

Q So someone else than the SP served it. Is that what it means?

A Yes, sir.

Q But as you look at it, there seems to be some

reason for using the SP here. Is that reason for using the SP rather than the MKT ever reflected in your calculations in the same way that our Kerr and Georgetown example showed that you projected the diversion when the Applicants could have extended their route but didn't before merger?

MR. WILSON: I believe that question needs clarification, Mr. Kharasch. I think that you are comparing apples and oranges.

BY MR. KHARASCH: (Resuming)

Q Prior to merger, you said, in discussing the Kerr and Georgetown, Texas example that we just went to, prior to merger, if the SP could have gotten itself a longer haul and didn't, you would assume that after merger it won't take its longer haul.

A That's exactly right. No, I'm not saying that. I'm saying that what we are doing here is trying to measure the effects of the merger, and the effects of the merger are not properly measured by just measuring unilateral extensions of hauls of individual carriers.

That's what I am saying there. I'm not saying that after the merger, the SP wouldn't compete in that hypothetical example to get its long haul. Of course it would. The SFSP, of course, would compete to get its long haul.

All I'm saying is that that long haul is possible today and that it has -- it is not the result of anything that occurs because of the merger.

Q And the principle that one should apply to the merging lines should be applied to the non-merging lines, too, should it not?

A How would that --

Q That is, if they weren't able to get their long haul in a route before merger, they won't be able to get it after merger either.

A I really don't understand that.

Q In what we are looking at, MKT-C-33, it appears that the MKT was not able to get its long haul to Waco.

A Yes, sir.

Q And instead, it surrendered the traffic at Denison to the SP which took it to Waco.

A Yes, sir.

Q Then you postulate a single line route by the SPSP.

A Yes.

Q From Chicago all the way to Waco and your matrix calculates that 64 percent of the traffic will go to the single line.

A Yes.

Q Which was obtained by your basic assumption that if you have a 12A route, that is, two non-merging railroads and then one of the merging railroads, and then you move to a single line, an A, 67.5 percent of the traffic will be diverted. Yes?

A Yes, sir.

Q And then you reduce that by O to B multiplier, .95, because Chicago is open, you say, and the destination apparently -- this is at least listed as open through reciprocal switching.

A Correct.

Q And that yields the 64.1 percent.

A Correct.

Q In that calculation of the 64.1 percent, is any weight given to the fact that the SP had power before merger to obtain a piece of the route, that is, Denison to Waco, which would seem, some might think, to have given it the power after merger to take a larger proportion when it had a single --

A That power is implicit in the 12A to the A percentages.

Q That's implicit in that?

A Yes, sir.

Q Now, if we look back at page 6 of DOT-C-2, we see powers that are also implicitly reflected in these

multipliers.

MR. WILSON: Point of clarification. What do you mean by "powers," Mr. Kharasch?

MR. KHARASCH: Well, the witness just told me, in response to an earlier question, that implicitly reflected in the .675 diversion was the power of the Southern Pacific to get the end of the haul.

MR. WILSON: Right. Perhaps I should have asked you a clarification on your earlier question. But now I'd like to know what you mean by "power."

BY MR. KHARASCH: (Resuming)

Q All right. Let's stop looking at this tabulation here for a moment and go back to MKT-C-33, Mr. Swain. MKT-C-33 shows the SP giving a Denison to Waco portion of the haul.

In your matrix multipliers model, you say that's reflected in the fact that the route was 12A to A.

A Yes, sir.

Q And such powers of attracting traffic as the SP has would be reflected in that .675 implicitly.

A It is a function of both the position in the route and the degree of service at the origin and destination. That is implicit in both of them.

Q Now, looking over at those multipliers, in

DCT-C-2, you say that the powers of the railroads to acquire traffic are reflected in these multipliers.

A The influence and the relationship of those influences of the exclusivity to which they serve the consignee or consignor are reflected in these multipliers.

Q Let's pause for a moment on page 6 and DCT-C-2 before we go back to MKT-C-33. The most power one could have in this table on page 6 of DCT-C-2 is a multiplier of 1.57, moving from an exclusive origin to an exclusive destination.

A That's correct.

Q How were these multipliers developed, sir?

A These multipliers were developed by the final evaluators in relatively -- by discussing, by substantial discussions where we have attempted to equate the -- or measure in a consistent fashion what are these changes in ability to diver traffic, based on the situation at the origin and destination carrier.

And we have given more weight to the impact on the origin side than we have on the destination side. And there is an internal logic and consistency in here which I think is fairly obvious if you look at the multipliers themselves.

Q All right. Are these -- well, first, you have

used the term "final evaluators," which sounds like something out of Norse mythology. Who are the final evaluators?

A I am a victim of ICC doublespeak here. Final evaluators refer to Messrs. Guerin, Reyff, and myself, who have the task of defending this traffic study. It was our decision to use these multipliers and we developed these multipliers.

Q May I ask whether these multipliers were used in each iteration uniformly?

A Yes, sir; they were.

Q And, therefore, they were developed before you performed the first iteration?

A Yes, sir; they were.

Q Now, did these multipliers have any relationship to any study of how traffic flows?

A They have. They reflect our opinions as evaluators as to what we think will happen, given these different sets of situations and the relationship between the two.

Q And I say was that based on any actual study? Did you ever study to see whether when traffic went from an open-to-open situation to an E-to-E situation, any traffic at all moved, not just --

A Each of the final evaluators are experienced

traffic officers in the railroads they serve. I was traffic officer for two railroads. And they are based on our experience of having participated previously in diversion studies, watched the mergers that were proposed occur, and then watching the diversions that occurred.

It's based on our experience as marketing personnel.

Q Is there any study -- I say now you have told me that they come out of your joint experiences. Is there any study that supports these joint experiences in the case of the E-to-E multiplier?

A Any details? No, sir.

Q Did you ever look to see what happened to traffic when it became exclusive to --

JUDGE HOPKINS: One at a time. You wait, and you ask the question

BY MR. KHARASCH: (Resuming)

Q Is there any study of traffic movements, by which I mean analysis of traffic movements, that actually occurred in the real world that shows that when a route becomes from an exclusive origin to an exclusive destination, the effect is only 1.57 and not, as I would expect, almost infinite in diverting the traffic?

A Mr. Kharasch, I don't mean to appear to be

argumentative, but I have to fall back on this answer. All of us are experienced marketing personnel. All of us, in the course of our duties as marketing people for railroads, have measured the impact to report to management of what has happened to a railroad as a result of mergers.

Those are studies that we conducted as railroad marketing experts. Those studies are implicit in the judgments we have made there. There was no specific study made for this merger. But we have in the past made studies that lead to these results and these conclusions as to what the impact is at origin and destination.

Q Now, I am impressed by the extreme precision of the three fates, the three final evaluators when they assigned multipliers here. How did you determine that the exclusive-to-exclusive multiplier should be 1.57 and that an exclusive-to-an-S, served but open to reciprocal switching, should be a 1.41?

Just explain those. Where is the precision coming from? The decimal point.

A From the multiplication effect of multiplying two factors. I was guilty again of leaping ahead and trying to figure out the answer before I heard the entire question.

Which precise arguments on page 6 do you want me to explain? The 1.57?

Q It's not an argument, unless you are using that in a technical --

A The matrix arguments. That's what I'm thinking of. Entrants to the table, matrix values.

Q I observe that there is an enormous precision expressed in the judgments on -- in this table of multipliers, and that the enormous precision gives you a 1.57, a very precise two decimal point multiplier for E-to-E traffic, exclusive-to-exclusive traffic, and 1.41 for exclusive-to-served-but-open traffic.

Now, please explain how those two decimal points come out. Or was it just that your judgments always operate to the hundredth of a percent?

A Well, we started from a base of open-to-open. Oper-to-open is 1, no multiplier. That is the base If you go from an exclusive to an open station, you get a multiplier of 1.34 percent.

Q Can you not stop there and explain why it is 1.34?

A Well, let me start further back in the analysis. We start from open-to-open.

Q That's your base case.

A Well, let's stay with what I have said

before. E-to-open is 34 percent. We thought there was a 34 percent greater likelihood of diverting traffic if we served the origin exclusively than if it is just open.

Q All right. The first 34 percent precision arose in the minds of the three evaluators as 1.34? That's not a developed figure?

A That's not a what?

Q That's not a figure that you developed by some calculation?

A The figures within the matrix have a symmetry which I will try and explain. If you go from an open -- start with an open to an open. If you go from a served to an open -- well, let's start on the received side. Start open-to-open.

If you go from an open point to a served point at the destination, we think there is a 5 percent greater probability of diverting that traffic if you are serving the point directly on the destination side.

If, on the other hand, you serve it exclusively, we think there is a 17 percent --

JUDGE HOLMES: Excuse me. Is this all judgment?

THE WITNESS: Yes. It's all basically judgments, and there is an internal symmetry here, which

if you go through this --

JUDGE HOPKINS: But the whole thing is judgment?

THE WITNESS: The whole thing is based on our experience as traffic officers. Yes, sir.

JUDGE HOPKINS: So there is no precision otherwise in the figures. It is just judgment.

THE WITNESS: That is true. There is a symmetry within here. These are all related together, but the basic numbers are our judgments as to what impact --

MR. KHARASCH: Yes, Your Honor, I understand about the judgment, and I can even see someone assigning a judgment of 1.05, but it is rare to find someone in so many decimal places of judgment.

Perhaps if we could have the witness explain the internal fearful symmetry of this, we would understand a little more how it was developed

THE WITNESS: Okay. As the destination carrier gets -- has more influence on the higher, more precise level of serving the shipper, the multiplier increases. So that when you are going from an open point to an exclusive point, the multiplier is 1.17.

BY MR. KHARASCH: (Resuming)

Q All right.

Now, I'm asking you, Mr. Swain, not for why 1.17 is larger than 1.05, but why is it 1.7? Is your judgment so refined that you think in hundredths of a decimal point?

A The only thing I can say is, it's all designed to maintain this.

Q How did you do it? Did you just sit down and say, boy, I know that's 1.17 and this is 1.23? How do you get to this precision?

A Literally, that's how we sat down and talked about it.

Q What is the internal symmetry that you seem to have here? I noted that that just seems to be a 17 percent applied twice. O to E is 1.17. E to C is 1.34. You seem to have doubled 17.

A That's exactly right. We made the judgment that if the destination carrier would improve his likelihood of diversion by 17 percent, that the origin carrier, when faced with the same circumstance, i.e., he serves the shipper exclusively or the point exclusively and is going to an open point, that the origin carrier would have twice as much influence as the destination carrier; that we would weight that more because of the control, the greater irfluence -- not control -- the greater influence that the origin carrier certainly has

on the route.

Q You doubled it.

A We doubled it.

Q The .17 was something you came up while you happened to think about it, and someone might say 10 percent, and someone else might say 17 percent?

A That's right.

Q Now, these multipliers were applied mechanically by your computer to all types of traffic, were they not, with the exception of TOFC traffic, coal traffic, and time-sensitive traffic?

A These multipliers were -- coal traffic -- I'm trying to think of why your exclusion. Multiple car coal traffic was not included in the diversion. Your other exception was TOFC. TOFC was considered open-to-open.

You had a third exclusion, which I'm not sure.

Q Time-sensitive.

A Time-sensitive traffic; you mean the expedited traffic? These multipliers were applied to expedited traffic, expedited carload traffic.

Q Now, is it possible, sir, that the bad old days of individual judgment being applied instead of using computers, that when a traffic evaluator looked

at, say, a grain movement, he might think that serving a grain elevator exclusively at origin might have a greater effect than serving, let's say, a department store siding at origin?

A It is entirely possible that another final evaluator would have different judgments. Yes, sir.

Q I'm not asking you precisely that. It may be another final evaluator or trio would not reach your figures of 1.57. That's not my question to you.

I am assuming that is true, is it not?

A That's true.

Q But is it possible that an evaluator, trying to make a judgment as to what would happen, might treat grain traffic differently than department store traffic?

A I can't see any reason why you would handle grain traffic differently than department store traffic.

Q Suppose the Interstate Commerce Commission had said indeed, in the UP merger, that grain shippers are very sensitive to who serves them at origin?

A I would say that all shippers are very sensitive to who serves them at origin.

Q So, in your judgment, these multipliers, once the appeared in the minds of the final evaluators, were

appropriate for application to every type of traffic?

A Yes, sir.

Q Grain? Not to coal, because no coal was diverted in your study.

A Correct.

Q Not to automobiles, because they were treated separately.

A Correct.

Q But whether it is grain or time-sensitive traffic, including TOFC traffic.

A TOFC was open-to-open.

Q But every other type of traffic, this is an appropriate multiplier to apply?

A Yes, sir.

Q And you think that other evaluators might give a different weight to an exclusive service to a grain shipper than, say, to some other kind of shipper? That is my question.

A I could -- another evaluator could do a lot of things. I could see no reason why a grain shipper should be treated different than a department store shipper.

Q And if the Commission has said otherwise, you would disagree with them?

A I would certainly want to know why they said

that. My judgment is there's no difference between a department store shipper and a grain shipper.

MR. WILSON: I would be surprised, on the record, that the Commission has said otherwise, by the way.

JUDGE HOPKINS: Well, we have your surprise on the record.

MR. KHABASCH: Thank you for your surprise, Mr. Wilson.

BY MR. KHABASCH: (Resuming)

Q Let me give you an example of why, to a layman, this might seem to be true. In harvest season, is there not quite often a shortage of grain cars?

A There are shortages of grain cars, yes.

Q And therefore, a shipper is quite dependent on a railroad that serves him to supply him with grain cars at harvest.

A That is correct.

Q Whereas, unfortunately, there seems to be quite a supply of boxcars around.

A Car supply, sir, is not the only thing that shippers are interested in. A department store shipper may have a sale scheduled for Friday, Saturday, and Sunday, and if he doesn't get his merchandise in which he had previously to in an advertising supplement that's

going to come out in the local paper on Thursday, he is going to be just as upset as the grain shipper who doesn't have cars to ship.

Q Now, this table of multipliers is available for use only when the shipment has been selected as potentially divertible by your model; is that correct?

A Yes, sir.

Q The rejection criteria, the non-diversion criteria, do not reflect anything about whether the origins or destinations are exclusively served. Is that correct?

A That is correct.

Q For example, the circuity criterion for rejection of potential diversion is the same whether you're dealing with exclusively served stations or open stations.

A That is correct. It does change for local movements, however.

Q It does change for local movements?

A Yes, sir.

Q Explain that, please.

A Circuity on single line movements is allowed to be up to 50 percent of the prior interline route as opposed to the normal 25 percent.

Q But that circuity that is allowed has no

relation to whether cargo is moving E to E or not, or O to O.

A It does have a relationship of whether it's a 1A to an A. It does have an impact on the matrix.

Q I'm sure it has an impact on the matrix. The point we're discussing is that I cannot see any way in the rejection criteria where a movement is kicked away from consideration as potentially divertible, that any effect is given to whether the Applicants control the origin exclusively and the destination exclusively.

A There is none.

Q Do you know whether in the year 1983, movements circulated on the Southern Pacific system had greater circuity than your model assumes could be imposed because the Southern Pacific had closed its routes, so that the only way the cargo could move was over the Southern Pacific from an exclusive origin to an exclusive destination?

A I would assume there is some traffic that has moved over circuitous routes.

Q Looking at the multiplier table on page 6 of DOT-C-2 and considering our previous discussion as to railroad power under the Staggers Act to close routes, as long as a route contains an E, either an origin or destination under the Staggers Act, could not the

carrier possessing the E station insist that all movements be by a route that it designates if they are going to be by rail?

A If the marketplace allows the carrier to do that, I can see the carrier has a legal right to do that; yes.

Q Now, let's drop down from the E's to the S's with the same sort of question, Mr. Swain. The S's are apparently served by merged carriers, but open to reciprocal switching to other carriers, according to this.

A The S occurs at open stations where there are other carrier. Yes, sir.

Q And I suppose such things have happened as that a station is closed to reciprocal switching by a carrier that is the only carrier at the station?

A Yes, sir.

Q I shouldn't say "station." Perhaps I should say "industry." An industry can be closed to reciprocal switching.

A Industries can be closed. They can also be open to reciprocal switching.

Q They can. And the carrier that serves it can close it to reciprocal switching. Have you ever heard of that happening?

A I've heard of carriers closing industries to reciprocal switching.

Q Now, if I understood the S designator -- and it's getting late in the day, the brain is a little tired -- but you told us the S designator would be used for an industry exclusively served by one of the Applicants, but located within an SLC that is designated an open SLC?

A The industry is at a location that is open to other carriers and one of the merging carriers is shown as being one of the carriers that serves that industry. There can be other carriers that also serve the industry. That's a possibility.

Q Now, when we drop down to situations like an R, it is possible that from the Applicants' point of view, somebody else could cut them off, is it not?

A Well, the Applicants only serve the industry through reciprocal switching. They do not serve the industry directly.

Q Yes?

A Yes.

Q And my question is, the person serving it could the cut off the Applicants if they weren't pleased?

A No. What we are reflecting here is, we are

reflecting the fact that since the Applicants do not serve the shipper directly, it has to go through another carrier who has to provide the reciprocal switching service which the Applicants, in turn, do not control, that there is a reduced likelihood of diverting traffic where you have less control of the service.

Q Now, when we drop down to the designator C for closed, is that a situation where the carrier serving the closed station could refuse to make any routes with the Applicants?

A Yes.

Q And again, all the multipliers with the closed in them are less than one, sometimes substantially less?

A That is correct; reflecting the fact that if you don't serve one end of the movement, there is a greater -- much less likelihood of affecting a diversion.

Q We had discussed earlier today the situation of Laredo, Texas which you list as closed. The SP can get to Laredo, Texas only via the Tex Mex -- SP traffic can get to Laredo only via the Tex Mex. Do you recall that?

A Yes, sir.

Q Now, do you regard the situation with respect to that Laredo traffic on the SP as the same as, for

example, a station that is located exclusively on the Burlington Northern?

A Which would also be closed?

Q Yes.

A Yes, sir. In the model, we do.

Q In the model you do, but in the real world the only way SP traffic can get to Laredo is over the Texas Mexican Railway.

A Or the Missouri Pacific.

Q Yes.

JUDGE HOPKINS: I think it's kind of late.

MR. KHARASCH: Oh, I'm sorry, Your Honor. You said you wanted to quit.

May I have a last question?

JUDGE HOPKINS: Surely.

BY MR. KHARASCH: (Resuming)

Q How much traffic does the Southern Pacific give the Missouri Pacific to move to Laredo, Texas? Do you know?

A I don't know.

Q Would you expect there would be any?

A Yes, I would, as a matter of fact, simply because I think shippers like the routing option, and I'm sure there is some traffic that flows because of that.

JUDGE HOPKINS: With that, we will be in recess until 9:00 o'clock tomorrow morning.

(Whereupon, at 4:45 p.m. o'clock the hearing in the above-entitled matter was recessed, to reconvene at 9:00 a.m. o'clock the following morning, Tuesday, October 23, 1984.)