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BRIAN J. QUEISER

of lawful age, a Witness herein, having been first duly sworn, as hereinafter certified, deposed and said as follows:

CROSS-EXAMINATION

By Mr. Kaster:

- Q State your full name, please, sir.
A Brian J. Queiser.
Q Where are you employed, sir?
A I work for Bridgestone Americas Holding, Incorporated, here in Akron.
Q If I'm not mistaken, your current title is Manager of the Product Analysis Department?
A That's right.
Q And the majority of your work is for the Law Department at Bridgestone/Firestone?
A It tends to be, yes.
Q Your Supervisor is Sol Solomon, the General Counsel --
A Sol, correct.
Q -- is that correct?
A Yes.

(Plaintiffs' Exhibit 1 was marked for identification.)

By Mr. Kaster:

- Q You're here pursuant to a Notice of Taking Deposition Duces Tecum that I will hand to you and ask you if you've seen a copy of.
A Yes, I have seen this.
Q Okay. And did you bring anything with you today in response to that Notice?

MS. DWYER: By Counsel, for the record, I've produced the specification for the subject tire.

MR. KASTER: I was just going to get him to tell me that. I realize you did that. You handed it to me right before the depo.

MS. DWYER: Since this is a corporate rep Deposition Notice, he really didn't do this. I did it as Counsel for the company.

MR. KASTER: I see.

By Mr. Kaster:

- Q Okay. In any event, we have the spec for the Steeltex LT265/75R16 that's the subject of this case?

A Yes.

Q Okay. I'm going to mark that as Exhibit 2.
(Plaintiffs' Exhibit 2 was
marked for identification.)

By Mr. Kaster:

Q Since I've not seen that before this morning, I'll
probably hold off on that for now.

You understand that we're here about a
Steeltex LT265/75R16 made in Decatur in the 43rd
week of 1999?

A Yes.

Q Load --

A Right.

Q -- E?

A Yes.

Q Have you done anything in preparation for your
deposition today, sir?

A In a sense, yes. I met with Ms. Dwyer yesterday for
a few hours and reviewed the subject tire
specification and familiarized myself with some
other specifications that I thought you might ask me
about.

Q Such as?

A The Steeltex A/T Load Range D in particular.

Q Okay. Did you bring any of those with you?

A No, I did not.

Q What do you understand your role to be here today,
sir?

A Well, my understanding is that you'll have some
questions about the design of the tire at least and

maybe how it compares to some other tires from a
design perspective, and possibly some questions
about the plant where the tire was produced. I'm
speculating, but --

Q What do you understand your role in the case to be?

A Oh, I'm here to answer your questions about those
topics.

Q If I hadn't set your deposition, would you still
have a role in the case?

A Well, possibly because from time to time I do work
for the Law Department or outside Counsel to find
technical documents or interpret them, and so I
could have had some involvement in that role.

Q You do -- I'm sorry to interrupt you.

A In that way, yes.

Q You Assist in discovery sometimes?

A Yes.

Q You attend trials on behalf of the company

sometimes?

A I've done that, yes.

Q You've testified as an Expert?

A I've done that, yes.

Q Let's see. Now I'm looking at some of the cases that I'm aware of that you've been involved in in the past.

In the Multi District Litigation, you were

involved in that in reference to Wilderness tires, correct?

A Yes.

Q ATX?

A Radial ATX, yes.

Q And the Hutton case, that was an FR480 you were involved in in that case?

A I recall that, yes.

Q The Wolfe case, that was an FR680; do you remember that one?

A Yes.

Q I think Bailey was a Wilderness AT?

A Yes.

Q Do you remember that?

A That sounds right.

Q Hill was a Firestone 721?

A That sounds right. I don't have a specific recollection of the tire. I remember the name.

Q Okay. Do you remember Lopez, that was an FR480?

A That sounds right. An extra load maybe from Mexico.

Q And Pantuso, that one, when you served in that case, it was a Triumph 2000?

A I have a recollection of the name and the tire, but I guess --

Q Let me help you with that. That's the one in

Salt Lake City.

A I didn't go there.

Q But that's where the case was filed. It's a case that I had and I deposed you in Pantuso in reference to a Firestone Triumph tire.

A I don't have a specific recollection of that.

Q Do you remember having testified in reference to a Firestone Triumph tire?

A At some time in the past. I'll take your word for it. I don't have any reason to doubt what you're saying.

Q Also, you've been involved in at least one Dueler case?

A Probably more than one.

Q Yes, I don't mean all of them. I'm trying to get

some of the different types of tires that you have been involved in the cases on behalf of the company. We've gone through the ones that I know about, which are the Dueler, the FR480, the Triumph, the 721, the Wilderness A/T, the Radial ATX, the 480 and the 680.

Are there others?

A There may be. You certainly have covered a number of different tires, though.

(Plaintiffs' Exhibit 3 was

marked for identification.)

By Mr. Kaster:

Q Let me show you something I'm going to mark as Exhibit 3, Brian, and ask you if you've seen this before.

A Yes, I have. It's very familiar.

Q Isn't it the same cutaway that we used in Howeedy last week?

A Howeedy?

Q Yes, sir.

A Yes, I believe that's right.

Q And this cutaway depicts the basic components of steel-belted radial tires?

A It has a plethora of different components, yes. Not all steel-belted radial tires have all the components pictured here, but, yes, these are fairly common components among different tires.

Q Let me quickly make sure we go over the terms that you and I are going to be able to use together.

If you go to what is depicted in yellow that I have indicated to be a "Cushion" -- do you see that --

A Yes.

Q -- is that what you would refer to as a belt edge insert?

A Yes. Usually we would in our terminology, yes.

Q And what I have as an "Apex," you would normally refer to as a bead filler?

A Yes, typically.

Q And where I have "Toe Guard," you would normally refer to that as abrasion gum strip?

A Yes, typically.

Q Other than that, the terms on here are terms that are commonly used at Bridgestone/Firestone?

A Yes, I think so. The word "Cushion," it is a term we use, we just use it for a different component than as pictured here. And "Gum Strips," the purple components, in our system that's a very general term and can describe a number of different rubber strips

in different parts of the tire, not just at the edge of the belt, like is shown in this rendering.

(Indicating)

Q But the purple depiction "Gum Strip," that would be an appropriate term for that component in a Bridgestone tire?

A We would call that a belt edge filler, although ours would be a little different. For instance, this drawing shows two of them, and they cover each edge. When we use a belt edge filler, we typically cover both edges with one piece.

Q I see. Well, let's now go through the depiction and review what is actually in the subject tire, the components that were in the subject tire constructed in the 43rd week of 1999 in Decatur. The tire obviously had a tread.

A Yes, of course.

Q And it also had an undertread or base compound?

A Yes. It had a tread, a sub-tread and an undertread. I see here in the rendering that undertread is -- it says Undertread/Base. Actually, in the subject tire there -- I guess to avoid some confusion, sometimes we refer to the sub-tread as the base compound.

Q Okay.

A But in this case there was a tread rubber compound, a sub-tread rubber and an undertread.

Q All right. And then there were no nylon overlays?

A That's correct.

Q Was there a belt edge filler or gum strip?

A In this case, no, there was not a separate belt edge filler because we utilized an extra thick undertread in lieu of a belt edge filler.

Q Was there a belt wedge?

A Yes, there was a belt wedge.

Q And was it placed as is depicted on the diagram, between the two steel belts?

A Yes.

Q And, of course, there were two steel belts?

A Yes.

Q Encapsulated in skim stock rubber?

A Yes.

Q Was there a belt edge insert or cushion?

A There was, yes.

Q Of course there were two body plies?

A Yes.

Q And there was a Halobutyl liner?

A Yes.

Q What was the end count on the steel belts?

A Green, it was 53 ends per decimeter. And cured I think it was 15.8. I can tell you precisely. 15.4 cured ends per inch. And green, as I said, was 53 ends per decimeter.

Q And what was the spec number for the skim stock that encapsulated the steel belts?

A We called it J2757. It's a compound name.

Q And the spec number for the inner liner?

A The compound name?

Q Yes. I'm sorry. The compound name.

A That's all right. We called it BT737. We also called it B3737 at different times.

Q The BT737 and the B3737 were essentially identical, you just changed the nomenclature?

A They were identical. We just changed the nomenclature.

Q What was the compound for the wedge?

A J2757.

Q And the undertread?

A I believe it was also J2757.

Q Can you check on that for me, Brian?

A Sure. Yes, it would have been.

Q And the belt edge insert?

A That was a compound we called V0027.

Q What was the designation for the AO package in this tire?

A Designation?

Q Yes.

A We don't --

Q You didn't have a number for it or --

A Well, there was -- as part of the formula, there would be some type of component or components in the formula.

Q More than one?

A In this case there would be two, yes, that I'm aware of.

Q Santoflex 13, is that one of them?

A I don't know. That name sounds familiar to me as

some type of chemical components, but I don't know

if it's synonymous with the components that I'm aware of that are antidegradants in the skim stock that we're discussing, J2757.

Q Do you know what Santoflex 13 is?

A I really don't.

Q Do you know if it's a commercially-available product that I can go online and buy?

A It may well be. I don't know.

Q How would you designate the antioxidants in the

subject Steeltex tire made in 1999?

MS. DWYER: I'm going to caution you, Mr. Queiser, that to the extent that question calls for you to divulge trade secret, proprietary information in the form of a formula, I'm going to instruct you not to answer. If it doesn't, then you may answer the question.

By Mr. Kaster:

Q I don't want to know the formula. I just want to know the name.

A Well, that's the part that I'm never certain of. I know the common names of the chemicals, but I don't know if I can divulge them without divulging some portion of the formula.

MS. DWYER: So I'm going to instruct you

not to divulge that.

By Mr. Kaster:

Q Mr. Queiser, I have the skim stock formula for the J2757 and the predecessor, and as I look down at the different chemicals or components, the only thing that I see that is an anti-oxidant is Santoflex 13. So let me hand you the skim stock formula and ask you to tell me what of these various components are anti-oxidants other than Santoflex 13.

But before I do that, I need to confer with your Attorney regarding the use of this document which came to me from the MDL and which was referred to in the last deposition last week that's not yet been produced in this case.

MR. KASTER: How do you want to treat this, Susan?

MS. DWYER: Bruce, I'll make the same objection.

MR. KASTER: Do you want to see it?

MS. DWYER: I think I know the document. I'll make the same objection in the deposition that I did last week, which is we object to the use of MDL documents that have not been requested or produced in this case, and

believe that you may be violating the MDL

Protective Order in using them.

Again, to the extent that they are generic in the sense that they apply to tires other than those involved in the MDL, we might be able to withdraw an objection later, or more preferably we would like to have a Request for the documents either by Bates number or

otherwise in this case so that we can control their confidentiality.

MR. KASTER: With that, I'll just go to the Court and address this, and we'll come back another day and discuss it and the AO package.

By Mr. Kaster:

Q Now, the skim stock for the subject tire, the 2757, was in use in 1999 for all Bridgestone/Firestone light truck tires, correct?

A Yes.

Q And had been in use for how many years approximately, ten?

A About nine, ten years.

Q I was pretty close.

A Yeah.

Q Subsequently it became the skim stock for passenger

and light truck tires, as well as part of your

commonization program, correct?

A I think it's probably better to say it was more concurrently used with light truck tires -- I'm sorry, the compound was used concurrently in light truck and in passenger car tires.

Q Going back to the same starting point, I get the impression, apparently mistakenly, that there was a different skim stock tire formula for passenger tires before 2000. I was wrong.

A We did have another one, so we had two that we did use for passenger car tires, so that may be part of the misunderstanding.

Q But the most widely-used skim stock for light truck and passenger tires both would have been Skim Stock 2757 in 1999?

A Yes, certainly.

Q Now, has that 2757 been changed in any way from the time it was introduced until the subject tire was constructed?

A I believe it's gone through some what I would call small modifications or tweaks that we consider to be equivalent in terms of the compound, itself.

Whenever a compound is changed substantively, then the compound name is changed. But I'm at least

aware of one modification where the compound name

was not changed, but, again, that small modification was made.

Q Was that the AO package that was changed?

A That's the one that I'm -- yes, that comes to mind.

Q And when was that changed?

A It was in 1995, I guess -- I can't remember the specific month at the moment.

Q And you went from one anti-oxidant to a combination of two?

A That's right.

Q And the combination of two was less expensive than the previous anti-oxidant, correct?

A Yes. I think the only thing that I'll say, just to clarify, is the components may have been anti-ozonants, as well as anti-oxidants.

Q Would it be better to refer to it as antidegradants?

A That avoids some misunderstanding, yes.

Q Then let's do that.

The antidegradant package was changed in 1995 from one chemical compound to two chemical compounds which were less expensive?

A The second that was added was less expensive than the first.

Q So that the antidegradant package in the 2757 would

have been less expensive after the change than

before the change?

A That's right. That's actually even despite a slight increase in the total amount.

Q Okay. Now, the 2757 used in the skim stock -- we probably ought to talk about skim stock for a moment.

The skim stock or changes in the skim stock have to do with the durability of the tire in the field in terms of adhesive qualities to the tire?

MS. DWYER: Objection to the form.

A Well, I think you certainly can view a skim stock as being important to durability, yes. The changes that -- at least that specific change that I'm aware of would have been made to accommodate a less costly material and to possibly slightly improve the overall antidegradant package in the compound, itself, which certainly could lend itself to affecting durability, yes.

Q In general terms, the skim stock is a critical component as far as the durability of the tire?

A It's obviously very important, yes. I mean, it's critical in the sense that it's important, but it's not the only thing. It's not solely dependent upon the skim stock, itself, but it's obviously very

important.

Q And antidegradants in a tire serve to preserve the tire and ensure that it does not prematurely fail in service; is that a fair statement?

A Well, it does attempt to resist the effects of oxidation in particular when you're discussing internal components like belts, so yes. The formulation of any skim stock, though, is dependent upon the components that -- or the chemical components that are used in the formulation, and so it just occurs to me that some components may not need much or any antidegradants added to them, for instance, they may be inherently resistant. And I may be getting off on a tangent, sorry, but some components are that way.

Q Skim stock clearly needs antidegradants?

A Well, we utilize them for our formula, yes.

Q You wouldn't want your skim stock to prematurely break down or lose its adhesive qualities, would you?

A Right. That's obviously an objective. You make an attempt to resist the effects of oxidation or chemical breakdown, you know, but you have other performance parameters to consider, too.

Q The Halobutyl liner, that also incorporates an antidegradant; does it not?

A Actually, no. In fact, that was what I was thinking of at the moment --

Q Okay.

A -- before the -- it turns out that the Bromobutyl rubber -- base rubber that we use for our inner liner is inherently resistant to the effects of the oxidation.

Q So you do not need to use an antidegradant?

A No, sir, we did not.

Q But all the components in which you have a 2757 compound would have the same antidegradant package?

A Yes.

Q Let's talk a moment about the undertread.

The undertread in the subject tire, Steeltex tire, goes over the edge of the cut edge of the steel belts, correct?

A Yes.

Q In a prior deposition, Brian, I had recalled that you told me that there was an effort to ensure that there was adhesion between the undertread and the cut edges of the brass-coated steel belts.

Am I correct in that?

A Well, the undertread has a certain component within the chemical makeup of it that improves the adhesion to brass. Cut ends of steel belts may have some remnants of brass on them, although they can be

generally viewed as being cut, so, you know, they're not coated like the rest of the brass cord is. That rubber is -- has some good qualities for adhesion even to bare steel.

The undertread in this case serves two purposes, like -- most of the time it does. But in this case it improves the processability of the tire, where when we add the tread rubber, the undertread is preassembled to the tread, and then that helps the manufacturing of the tire by adhering to the steel belt.

Also, it covers and fills. In this case, because we use an extra thick undertread, it covers and fills the voids that can be created by the step-offs in the belts as you progress from edge to edge, so it serves that purpose, too. In addition to, I guess you can view it as a third element, and that is attempting to adhere to the ends of the exposed steel or brass.

Q The undertread then would serve a useful purpose in relieving the inherent stress at the belt edges that's a common problem with steel-belted radial tires?

A Well, it really doesn't relieve any stress because, technically speaking, the stress begins between the laminates.

Q Yes, sir.

A When we talk about the cut ends, we're talking about a tiny area that's 90 degrees away from there.

Q You misunderstood me Brian. I was thinking more about filling in the area over the steel belts and belt wedge as relieving stress or strain at the belt edge.

A Not really. What it does is avoid any air pockets or it basically creates a smooth rubber fill, I guess you could say. It's hard to -- I mean --

Q I visualize it. Thank you.

The belt wedge then would be the component that would be utilized to reduce the stress or strain that's inherent at the belt edge?

A Right. We use the belt wedge in conjunction with the steel belt and its calender gauge to manage the stress, yes, and strain.

Q Because the stress in a steel-belted radial tire is highest at the belt edges?

A Yes. I mean, exclusive of any so-called hot spots maybe where there may be some strain maybe in the bead or something. But as a tire operates through

the contact patch, the belt edges between the belts

are where the highest stress and strain generally occur, and it diminishes very quickly as you progress inward from that edge.

Q So the place where you would have crack growth typically would be at the belt edges, and that's why you want the wedge there, to reduce the propagation of crack growth?

A Yes. The thing is, you don't have to use a wedge if you use a sufficiently thick steel belt, two steel belts. What we do is, we balance the gauge where it's needed. It's needed at the belt edge, it's not needed in the center, and so we utilize the belt wedge in the manner that you asked.

Q Does the belt edge filler serve any purpose in reducing belt edge stress or crack growth?

A I can't picture a whole lot of stress or strain reduction from the filler, itself, from the standpoint of incipient separations. It may be present from the very edges of the belts, the belt edge filler, and when it fills that void and adheres to whatever steel or brass that's exposed there, that certainly can help that process or help minimize that situation.

Q You've read the NHTSA Engineering Analysis Report in

reference to the Firestone Wilderness A/T Tires;

haven't you?

A I have, yes.

Q And we've talked before about one of their findings. I'm going to read to you on Page 2, and I quote, "A critical design feature used by tire manufacturers to suppress the initiation and growth of belt edge cracks is the belt wedge, a strip of rubber located between the two belts near the belt edges on each side of the tire.

You agree with that statement, don't you, Mr. Queiser?

A It doesn't have to be critical because there's exceptions to that, like I mentioned, you know, depending on how you balance the belts, the so-called belt package with the gauge of the belts themselves. The bottom line is that it's not always about the wedge. You don't have to have a wedge. Some tires don't. We do. And in this case, it is present. So the manner that NHTSA is addressing it is the same that I mentioned to you earlier.

Q My point is, you don't disagree with that statement?

A Not in this situation. You know, there are deviations to that.

Q In the next paragraph, and I quote, "Another

important feature of radial tires related to the

prevention of belt leaving belt separations is the gauge of the rubber between the two steel belts or inner belt gauge."

You would agree with that, as well; would you not?

A It certainly is important. It's not as important as what goes on at the belt edge. The reason for that is the stress and strain, which we've already discussed, and how that becomes significantly diminished as you progress further inboard. And you don't have to get far inboard for that to happen. A half an inch to an inch, it drops off significantly.

Once a belt edge separation progresses to the point where it's past the belt edges and propagates further inboard or circumferentially, then you can get into a belt detachment situation with centrifugal force, with tearing of the tread rubber away and tearing the belt away with it. I don't know that we've really shown that, so I'm not certain -- I'm not certain I agree with that statement. I'd have to read the rest of the context.

Q Let me hand it to you.

A It's not clear to me whether they're talking about

the detachment, itself, because I'm not sure that it

affects the detachment situation. It in combination with the belt wedge, though, can affect the initiation and the propagation at the belt edge, so that's why I think you view them together, and I think it's fair to do that. But I guess I'm not certain if they're talking about the full detachment.

Q Well, they don't --

A It seems like they might be.

Q If they're not talking about detachment, they're talking about separation, incipient separations, and you'd agree with them?

A With incipient, yes, because I think you have to consider it in conjunction with the wedge, and so that's the balancing act that the tire companies and tire engineers go through.

Q And it's not just the gauge that's important, it's also the chemical composition and the adhesion of the rubber to the steel that's important?

A That's a very good point. I mean, there's really a couple things going on. There's adhesion --

Q Do you agree with me, first of all?

A Yes, because you have adhesion in the truest sense

where you're trying to stick to the steel. And some people view adhesion as the crack, itself, as part of the adhesion. It's really not. That's typically a cohesive situation. It's typically a structural issue where the rubber is actually cracking and not really becoming so, you know, unglued, per se. But you do have the propagation element and the resistance to a crack that's there to propagate, is another important material property that the skim stock -- you know, that's vital to address. And so, you know, depending on your skim stock, you can run different gauges, you can run with or without wedges. These are all the things that you have to balance.

Q Are you aware of any Bridgestone/Firestone LT tire that did not use a wedge?

A Going back -- I'd have to go back pretty far.

Q I'm talking about at the present time.

A Not at the present time. Right, I don't think we do. I think it's been a long, long time since we've -- since we've introduced wedges in the -- all of our LT tires.

Q What about your P-metric tires, are you aware of any P-metric tires that don't use a wedge?

A No, not at the moment. Not off the cuff.

Q What is the gauge of the wedge in the subject tire?

A It's a .04-inch gauge. It's a one-inch width.

Q And when did that last change?

A Well, for the subject tire, it was always that way from the day it was introduced.

Q Introduced --

A It goes back to -- depending on the plant, it goes back to probably as late as 1997.

Q I interrupted you. I'm sorry.

A That's all right.

Light truck tires typically had been on one-inch wedges. I think there was the rarest exception where they were three-quarters width. And I can't think of -- I can't -- it's possible some flotation tires, light truck flotation tires were three-quarters width. But I believe they've generally been -- I want to say almost always been one-inch wide. And then there was a time period in the mid-Nineties where -- and it was brief, where flotation tires were .02 gauge.

Q With the exception of the flotation tires, which are a very small part of the market, this has been a standard gauge for belt wedge edges for Firestone LT

tires, with a very minor exception of the three-quarter inch at one point?

A Yes, it goes back a decade or so on that dimension.

Q I'm sorry, you probably told me, but I didn't write it down, when did the A0 package change, the 2757, what year?

A I recollect it was 1995, I want to say July, but I can't be certain at the moment.

Q Has there been a change in the 2757 subsequent to 1999, either change in the designation or change in any of the chemical compounds?

A For a brief time we converted some of the plants to J5757. We wanted to do it across the board. In fact, I think our specs reflect that. But not all plants did, and some did it in some of the components, but not all. We ran that way for about nine months at least on paper. And by spring I believe of '01 we converted back to 2757.

Q What you're using now?

A Yes.

Q Were you using a belt edge filler on your light truck tires in 1999, all your light truck tires?

A We were either using a filler or a thicker undertread, like we are here.

Q Okay.

A To give you a few more details on that, typically the undertread is much thinner than .04 gauge, like it is in this tire. The full width undertread is

.04 gauge. It was more common for the undertread to be less, to be, like, .015, and then for a belt edge filler to be .04 gauge. And that was about -- that was usually an inch wide and covered both ends of the belts. In this case, it was a full width belt edge filler that was .04 total.

Q So in the Steeltex tires and other light truck tires manufactured in 1999, we would have had this thicker undertread, rather than a belt edge filler?

A Right. Some plants did that for efficiency's sake, they could -- essentially they eliminated the components, the belt edge filler component by running a thicker undertread.

Q If I understand correctly, the liner in the Steeltex Load Range E that we have here is the same liner that would have been used in all LT tires produced by Bridgestone/Firestone in 1999?

A The compound, yes, BT737 or B3737. When you say "liner," you're talking about the inner liner, yes. Yes, it was widely used. It was used in all of our

light truck tires. Yes, the gauge, I believe, was consistent. There would be difference in the widths, for instance, depending on tire size or application.

Q Obviously a bigger tire would have to have more.

A Yes.

Q And I'm not really interested in width. I'm interested in chemical composition and gauge, okay?

A Okay.

Q The same thing would be true of your undertread in 1999, it would be the same chemical composition and gauge for all of your LT tires?

A Well, that depends. There were some situations with undertread where it was J2917, and it ran the thinner gauge, and then the belt edge filler was J2757.

Q Which tires had that in 1999?

A You know, I'd have to really research that to tell you which ones. It varied by plant usually.

The other option is what we have here, which is one strip that was extra thick, and that was J2757. So there was some variations, is what I'm getting at.

Q The belt wedge configuration on this tire, would that have been consistent throughout your LT tires in 1999?

A Except for the -- yes, except for the flotation.

Q Yes, right, which is a --

A It's a sub-set of light truck, and so that's why I get trapped.

Q I'm not trying to trick you.

A I know you're not.

Q I'm not interested in floatation tires. I'm really interested in Steeltex tires and other LT tires.

Let me go to the cushion.

The belt edge cushion would have been the same across your LT lines, except flotation perhaps?

A Yes. We had a couple variations, though, so maybe -- well, let me think.

You're referring to the cushion as the belt edge insert, right?

Q Yes, sir. Cushion or belt edge insert. It doesn't make any difference to me. We can use that interchangeably.

A I believe we had a standard compound for belt edge insert for LT. I think it varied by application and dimension depending on the plant and the machinery.

Q But it would have been the same chemical compound?

A It would have been the same compound, yes.

Q So for Load Range D and E Steeltex tires, the inner liner would have been the same gauge and compound, correct?

A In this case, the inner liner was -- it was very similar. It had a slightly different chemical formulation to accommodate recycled materials.

Q What do you mean by that, Brian?

A The Load Range D had a requirement to have a certain amount of recycled content.

Q Whose requirement?

A It was Ford's.

Q Okay.

A And in that case, there was a slight variation in the formula or in the name of the compound. It performed the same, but it was configured differently.

Q Can you tell me how it was configured differently?

A It had reclaimed butyl rubber. I'm trying to think how best to describe it. It was basically pulverized butyl rubber.

Q And what was done to the formula to accommodate that?

A Just simply to add that material into it.

Q But it's the same rubber, just some of it is recycled and some of it's not recycled?

A Right.

Q Okay. Let me go to the skim stock.
The skim stock would have been the same chemical formula for both Load Range D and Load Range E?

A That's right. Yes.

Q And the belt wedge would have been the same formula for both the Load Range E and Load Range D?

A Yes.

Q And the undertread would have been the same chemical formula for both Load Range D and Load Range E?

A Actually, I don't think so.
I think the Joliette Plant, which made the Load Range D exclusively, utilized -- well, the compound would have been -- you were asking about the undertread, right?

Q Yes, the chemical compound for the undertread.

A The undertread in the Load Range E would have been the same as the belt edge filler in a Load Range D from a compound perspective.

Q You said the Load Range D was made in Joliette?

A Yes.

Q Was it made anywhere else?

A No. That was exclusively made in Joliette.

Q Did they also make Load Range E?

A They at least had a specification for it. I don't know if they produced it or not. I imagine they did.

Q If they were producing the Load Range D and the Load Range E, they would have been using the same tire building machines to produce both E and D load range, correct?

A Maybe not the very same equipment, but the same type of equipment, yes.

Q The same tire builders would build both; wouldn't they?

A Maybe. They had a lot of different machines, and so could the same tire builder build one or the other, certainly possibly, because they're trained on the equipment and they're set up to build a specific tire. And Joliette, most of their tire building equipment was of the same variety. They had a few -- they had a couple different machines for a while. But if you're asking were they specifically built on the same machines, I don't know. But the same type of machines, yes. I mean, they have 20 of them or more.

Q There was no special machine, no first stage tire building or second stage tire building machine that was dedicated solely to D or E, was there?

A No. Right.

Q Now, the Load Range D has undergone a recall, correct?

A We had a -- yes, in a sense. We had a consumer replacement program in February of 2004.

Q Were you involved in that in any way?

A I had -- you know, I wasn't integral in making the decision, but I was involved in some of the investigational process.

Q There were what, approximately 497,000 Steeltex Load Range Ds that were recalled?

A That sounds right. About half a million, yes.

Q And one of the problems with those tires was tread separations?

A What we noticed was, yes, we had a disproportionate number of claims, particularly property damage claims, for tread/belt detachments. We had a few serious accidents, but the vast majority of them were for property damage claims.

Q And that came to the attention of Firestone through

what's known as the early warning reporting?

A Early -- yeah, we have an early warning system.

Q Yes, sir.

A That's what we call it. That may be sort of a general term, but yes.

Q The early warning system includes analyzing data from adjustment returns or warranty claims, as well as claims data and litigation data, correct?

A It does, yes. It attempts to integrate those data sets and monitor them.

Q Let's discuss that a little bit. Let's start with adjustment data.

Adjustment data is data that Firestone receives through its warranty system which helps Firestone track the performance of its tires in service, correct?

A Yes. It's sort of really almost real-time data that comes back to the company on pretty much anything a customer could bring a tire back to us for.

Q And that's different from claims data, because claims data doesn't come through your warranty system, claims data is information received from consumer complaints for property damage to their vehicle, correct?

A It's usually property damage. It can be for minor personal injury, you know, where we simply haven't been sued, you know. But that's a different type of data set. But a claim can be property damage or injury.

Q And both the adjustment data and claims data are kept in computer databases?

A Yes.

Q Then you also have personal injury claims, such as this, where someone has been severely injured or killed, and that's a different source of information than your adjustment data or your claims data?

A Yes. The source is different. It arrives to us

through the legal network, through, you know, means of a lawsuit.

Q And the data that came to your attention in reference to the Load Range D, Steeltex Load Range D that triggered action was through the claims data, correct?

A Yes. It was predominantly through the claims network. The adjustment database I think was running fairly nominally, although it I think showed some trends that reflected the claims, as well, which was something that we were concerned about,

too.

Q If I recall correctly, in the recall of the ATX and Wilderness tires, it was the claims data there that triggered action, again, rather than the adjustment data.

A That's right. And the difference between January or February of 2004 and August of 2000 was that prior to August, 2000 our company hadn't been looking at claims data as a source of product performance data. When it became so voluminous and so disconcerting to us, we analyzed it quite differently in the summer of 2000, which obviously led up to the recall that you're referring to.

By the time February came around of 2004, when

we were evaluating data on the Steeltex A/T Load Range D that we had a replacement program for, we had a system in place, which you already asked me about, the so-called early warning system, that was more pro-actively evaluating claims data.

Q When you look at adjustment data for tread separations such as we have here, there are several categories that you look at in order to track the performance of the tire in the field, correct?

A We have a series of codes that are related to belt edge or belt detachment adjustments, codes such as a belt edge separation code or a belt leaving belt or even a tread leaving belt or belt leaving casing code.

Q I thought there were five.

A There are five.

Q That's four. And I can't remember the fifth one.

A There's one which has to do with a cut or a separation without the presence of a cut or with a cut.

Q My recollection is that at times you've also looked at ride disturbance as a potential indicator for tread/belt separation; am I correct?

A Well, you wouldn't normally do that because if --

what typically happens with a belt edge separation

adjustment is it gets coded that way because that's the condition of the tire. A ride adjustment or a vibration adjustment usually is a new tire that hasn't failed in any manner and shows no outward signs of a failure, it's simply a balance issue or some other tire uniformity issue or the customer is not happy with how they ride, so that database is predominantly -- certainly predominantly, if not entirely composed of that type of adjustment.

If we get a customer that comes in and says, "My vehicle is riding really roughly," and the vehicle gets evaluated -- I'm sorry, the tires get evaluated and the Store Manager or person in charge says, "Well, we understand it was riding rough, but it was because of a separation," it wouldn't get coded as a rough ride, it would get coded as a separation.

Q Okay. Well, let me see if we can't make sure that people who read this will understand the terms we're using.

You and I are using tread separation to refer to where the tread and upper steel belt and components detach from the carcass and No. 1 steel belt, correct?

A To be -- we do that, yes.

Q We've been doing that?

A We probably have. I try to be -- and you can be a little more specific and refer to the actual detachment as a detachment.

Q Which you did at one point today, and then we slipped into calling tread detachments tread separations, which we commonly do.

A It's common.

Q And the Government refers to tread/belt detachments sometimes as tread separations, as well as the industry?

A They do, yes. That happens.

Q If we're going to use the correct terminology when we're discussing the tread and upper steel belt and components between the upper steel belt and tread coming off of the tire, that's a detachment?

A Yes.

Q You can have an incipient separation where the components are separated, but the tire does not fail?

A It maybe is in the process of failing, depending on how severe the separation or cracking are inside the tire. But, right, it hasn't -- there's no detachment, so there's no obvious failure.

Q And it may wear out before it detaches?

A That's true. In fact, if you were to go and look at worn-out tires and cut them, you'll find a lot of incipient separations inside of them.

Q Which we've done. You've done that. I've done that.

A Yes.

Q It's not surprising to find that. You don't want

the tire to detach even if it has an incipient separation or, as we said, belt edge crack.

A You certainly don't want it to. What you don't want is to develop the belt separation in the first place, then you don't have to worry about the separation. So that's the engineering focus, is in the prevention.

Q What you were explaining to me is if a customer came in with a ride disturbance, and if the tire dealer concluded that it was a separation causing the disturbance, he would properly categorize that as a tread separation, rather than ride disturbance; did I understand you correctly?

A Yes.

Q Likewise, if someone came in with a ride disturbance complaint, and the dealer really didn't analyze and just said, "Fine, you've got a ride disturbance,"

and sent the tire back, it might be categorized as a tire separation at the adjustment center or it might be left as ride disturbance?

MS. DWYER: Objection to the form.

A I think anything is possible. But the reason why -- there's another factor here, and that has to do with really the condition of the tire. Let's just set separations aside for a moment. If a customer leaves the store or dealership on a new set of tires, and drives around for a month and comes back and says -- or even a day and says, "I don't like" -- "They're vibrating, they don't feel right," whatever it is, that's a different situation than somebody who comes into the store after 20,000, 30,000, 40,000 miles, whatever it may be, significant wear has been put on the tire, and now they have a ride situation.

So you get into the situation where a lot of the ride claims are that first subset, you know, especially with -- particularly in the last five years or more we've had warranties with 30-day test drives, where you can bring them back for any purpose and get an exchange or get your money back, whatever the warranty is. I can't recall offhand.

So all of these things are taken into account by anybody from the store level to the regional

warehouses where they code tires, you know, they're taken into consideration.

Q Of course there's the area between the 30-day period and the 30,000-mile period where you may have ride disturbance which could be the result of an

incipient separation or could be the result of something else.

A That's right. I mean, if an incipient separation is generating a ride disturbance, it would typically have a wear pattern on the tire that would be visible and discernible.

Another factor here is, frankly, some people come in with a complaint and they get their tires balanced because a weight fell off or something, and that solves it and they go.

Q They wouldn't come back in the adjustment system?

A That's right. Their situation would be solved as a strict balancing problem.

Q In any event, we can agree that incipient separations can cause ride disturbance?

A Yes, particularly if they lead -- in my experience, if they lead to rapid or accelerated wear in a portion of the tire.

Q In the claims tires, the overwhelming majority of those are some type of tread detachment?

A Right, because that's where a tire has failed and now there's been some type of damage maybe to the wheel or maybe to the fender well of the vehicle from the failure.

Q We've been going for an hour, Brian.

Do you want to take a break, five minutes, or do you need more than that?

A That's fine.

(Recess taken.)

- - -

By Mr. Kaster:

Q I have a recollection that the Bridgestone adjustment system -- it might have been Firestone at the time, but that the system was modified or streamlined in the late Eighties or early Nineties.

Are you familiar with that?

A Actually, no, not particularly. The only thing I could imagine it could be, and I'm speculating, is just a further computerization of the process.

Q I remember an employee at Firestone who modified or streamlined the system and received some type of promotion or award, apparently made some major change.

You don't know about that?

A No, I don't.

Q Now let's go to the nylon overlay depicted in red on Exhibit 2.

You're familiar, of course, with nylon

overlays?

A Yes.

Q They have been widely used at Bridgestone/Firestone for quite some time; have they not?

A Well, they're becoming more widely used. I still think the vast majority of tires that we produce and have produced are produced without them.

Q I had a different question. I understand that the majority of tires do not have them. But I remember a list of Firestone tires, a long list of tires that have nylon overlays, that have been in use for quite some time.

So let me ask you again, they have been widely used, not universally used at Firestone for over five years; have they not?

A Well, I may even have some idea what list you're referring to.

Q Yes, I'm going to find it here in a minute.

A We certainly have used them in some form going back into the Eighties. The term, to be a little more specific, can refer to a full width nylon overlay as

depicted in Exhibit 3.

Q Is it 3?

I thought it was 2. You're right, it's 3.

A They also can be strips at the edges, and they can be a combination of strips and full width cap plies.

Q Would we refer to them as a nylon component?

Would that be fair?

A I don't quibble with that. The thing is that they started off in very high-performance tires for a time at least in the Eighties, and continued along that vein, and so you're right, they were widely used in that there were a lot of different products. And I can't remember the list.

Did you find it?

(Plaintiffs' Exhibit 4 was marked for identification.)

By Mr. Kaster:

Q I'm going to hand it to you. I marked it as "4." It's a 23-page list that you and I looked at before, Mr. Queiser.

A I think what's on here is every spec where we could find where some nylon has been used, so whether it's a full width or strip, it's really not designated here. But this goes back I believe as far as our spec system could be -- could pick it out, which

would be to the mid-Eighties I think.

But in any case, yes, there are a lot of

different tires that have used some type of nylon reinforcement. And as speed ratings have increased and really more tires have become higher speed rated, they've become more commonly used, as well.

Q This list was put together in 2000, if I remember correctly.

A I'm not positive. I'd put it in that era, 2000 or 2001.

Q Since that time, the use of nylon overlays has increased at Firestone, as well as other companies?

A I guess I can't say that I completely surveyed other companies. It wouldn't surprise me because of the same reasons, with speed ratings being what they are. But certainly at Firestone, yes, they've become more prolifically used.

Q Full nylon cap plies, for example, do retard tread/belt detachment if you have an incipient separation; don't they?

A Actually, I haven't seen that to be the case. Some testing that was done five years ago or more indicates that a full-width cap ply would not prevent the tread from becoming detached. What essentially happens is the centrifugal force breaks

the nylon, itself.

Q What tests are you referring to?

A Some testing that Mr. Gardner did I believe in the late Nineties, I believe, maybe in 2000.

Q Have you reviewed that testing, yourself?

A It's been some time, but yes.

Q It's your testimony that Mr. Gardner's testing that he has referred to in depositions previously actually shows that nylon cap plies do not serve a purpose of retarding tread/belt detachment in an incipient separation situation?

A Well, the testing was simply to show -- what he did was he built tires with separations built into them, and then tested them I believe at 75 miles an hour to see if the tread or belt would be prevented from becoming detached with an incipient inner belt separation. And my recollection is that the findings were that they -- all the tires that were tested became detached in some manner.

Q Did you participate in that testing?

A No.

Q Was it videotaped or recorded in some way?

A I don't -- I can't say that I've ever seen one. There's some notes and some test result pages, but nothing video related that I've seen.

(Plaintiffs' Exhibit 5 was

marked for identification.)

By Mr. Kaster:

Q Are you familiar with the Firestone class action in Texas referred to as Shields versus Bridgestone/Firestone, in Jefferson County?

A Yes. I'm not wholly familiar with it, but I have a recollection of it, yes.

Q Were you involved in it in any way?

A I don't think so. Maybe peripherally in some way that I can't recall.

Q You are aware that it was a class action that arose out of tread/belt detachments of Firestone tires?

A There were I believe a number of claims. I believe they were primarily people that had claims that were regarding the loss of value of their vehicle. I guess I can't recall the specifics. I don't know that the people involved in that suit were harmed physically or had vehicle damage.

Q No, I didn't mean to say that.

A Okay.

Q My point was that their complaint was that the tires had a problem with tread/belt detachment or tread/belt separation, and that's what led them to file the class action, that's the identified problem

with the tire.

A That may be. They might not have --

MS. DWYER: Object to the lack of foundation.

A That may be, I guess. By my understanding of it, those individuals did not have specific failures, they were -- they had other complaints.

By Mr. Kaster:

Q We agree on that.

They weren't complaining about being injured or property damage, they were complaining about their tires because of the susceptibility for tread/belt detachment or tread/belt separation; is that right?

MS. DWYER: Object to foundation.

A That's my recollection of what they alleged.

By Mr. Kaster:

Q One of the things that Firestone did in their published information regarding that that I took off of your website, and I'll hand you, was to agree for a period of at least seven years to manufacture and sell a specified group of tire sizes and brands with cap belts or strips, nylon belt strips or other comparable technology; is that correct?

A That sounds right.

Q I highlighted it so you could find it. I've marked it as Exhibit 5.

A Yes, I mean, what you read sounded -- sounds like what's written here.

Q And that was for LT tires or did it include P-metric?

A It included -- it was predominantly P-metric. There was a list, I think.

Q See, the problem I have is that the list that is there above it is not the list that has the tires. That's the tires identified as tires complained of. But the tires that incorporated nylon cap plies I can't find in there. Maybe I just don't know where to look. Take your time.

A Well, you may be right. I don't see -- even the list here that's attached seems to be maybe the tires that were in the class.

Q Yes, sir.

What I need to know is, is there a list of the tires that incorporated the nylon cap ply technology?

A Good question. I thought there was.

Q I would assume there would be, but I can't find it. Okay. Well, we'll address that another day.

A I may be confusing this list with maybe my

recollection or lack of recollection maybe is more appropriate.

Q If I understand Firestone's position correctly, as long as there is sufficient tread on a Bridgestone/Firestone tire, the tire is serviceable and there's no reason for the consumer to take it out of service, in other words, if there's more than 2/32 tread depth, as long as the tire has no other problems, the tire should stay in service; is that correct?

A I think the key there is that as long as the tire has no other problems, so yes.

Q Let's say if a tire was 20 years old and it had -- it was a 10/32 tire and it had 8/32 tread depth, Firestone would not recommend for people to remove that tire from service?

MS. DWYER: Objection to the form.

Incomplete hypothetical.

A You're bringing up age as the one element there. We don't have a time cutoff per se.

By Mr. Kaster:

Q No shelf life?

A Right. I mean, who knows what's going to happen in the future with the Government or the industry, but

we don't have one now, and I don't foresee having one at our company unless something major changes.

Q But, right, we don't have a shelf life, so to speak. You're aware that the European Tire Manufacturers Association does have it, a recommended shelf life for tires in Europe?

A MS. DWYER: Objection. Foundation. There's been some different recommendations from different sources in Europe. There was something that came out from the British RMA sometime within the last five years. Oh, boy, I think they had something like a six-year or a ten-year rule. The specifics of it I guess I'd have to think about to really remember.

The ETRTO has toyed with some type of recommendation, but essentially has concluded, as the rest of the industry is attempting or is concluding, that it's too difficult to do that without hard data. And that's where all the work is progressing at the moment, to try to determine if there's any data or to get the data that would suggest when any cutoff should be or whether there even can be.

Q Are you aware -- well, let me ask you first, does Bridgestone/Firestone still sell OE tires to General Motors and Ford?

A Well, not so much to Ford that I can think of. In fact, I don't think we sell to Ford. Maybe Mazda, but not Ford Motor Company.

Q What about General Motors?

A GM, yes.

Q Are you aware of whether either General Motors or Ford has made a recommendation on a use life or shelf life for steel-belted radial tires?

A MS. THOMAS: Object to form. Well, for both companies I have an understanding of the public position they've taken.

By Mr. Kaster:

Q What is your understanding, Brian?

A MS. THOMAS: Object to form. Ford in the last few years -- I'm sorry, few months has determined that they were going to advise consumers to not use tires after six years of use or maybe six years of manufacture. I guess I'd have to look at it to be -- to really be clear. It was a six-year rule.

GM, on the other hand, said that there was no data to back that, that it wasn't necessary for them

to create a rule like that, so they deviated from Ford in that recommendation.

By Mr. Kaster:

Q Any other vehicle manufacturers that you're aware of that make any recommendations on the shelf life or useful life of tires other than Ford?

A Well, some car companies do, that I have seen over the years, in different manuals. BMW has and Audi/Volkswagen have. I think Toyota -- my recollection is even Toyota has. I'm not sure they do it in every vehicle, for every vehicle in every market. What I've seen is a number of different dates. Some say six and some say four or ten. And I think that only stands to exemplify, in essence, the arbitrary nature of that date, that it's just sort of chosen because it maybe sounds right to the car company. I'm really not certain what they're thinking. It's certainly not based on data that we're aware of. And that's where the industry is focused, and the Government, too, is focused right now.

Q Is on data?

A Trying to obtain -- right, to characterize -- it's sort of a three-phase process, in my mind. They're attempting to characterize tire aging particularly in the hot, southwestern states where aging is theoretically and typically more prolific.

Q That would include -- even though you say "southwest," that would include Florida?

A Sure, sure.

Q I'm sorry, I didn't mean to interrupt you.

A That's fine.

The second phase is to attempt, after that characterization is made, to reproduce it in the laboratory. I'm simplifying this. That's the second phase.

And the third phase is to create some type of durability test based on the first two steps, and particularly the second, because if you're going to establish some type of durability criteria, you have to have some way to test for it, and so that's where they're going. I think some people envision -- and I am not certain this was ever the intent, but some people envision that there will be some type of born on or discard after separation date. I'm not sure that was ever even the real intention, although there's a lot of focus on that. But really the Government and the industry are really not quite

through Step 1. There's some concurrent work being done on Step 2 and Step 3 even, but it's really still getting going.

Q And when did Firestone or Bridgestone/Firestone first initiate any type of testing or analysis to determine Step 1?

A The characteristic of aging in the field?

Well, they think it goes back a long ways, frankly. From a chemical perspective, our compounders have an understanding of certain historical aspects of compounds that we've used over the years, whether it's tread or belt or sidewall, especially compounds that are exposed to the elements, you know, direct exposure to the sun, which generates direct exposure to heat and ozone, which is obviously an outward -- generally an outward situation, you know, outwardly affecting the tire.

I guess I couldn't put a specific date on it. But it really goes back to the beginning.

Q More than a decade?

A Yes, I mean, to -- I almost want to say day one, because rubber, it's not -- it's almost -- it's essentially common sense to a compounder, you know, maybe not to you or to me, but to a compounder, it's common sense that materials such as rubber, like steel, oxidizes, and what happens to the rubber performance from that oxidation is very important to a compounder. And it just really goes back to practically the beginning.

Q Premature aging of a tire could result in tread

separation or other type of failure in service?

A Well, I think if you significantly -- well, you say "premature aging." I think if you damage a tire through some type of oxidation effect or some type of heat effect, which can be done, you know, if you run a tire underinflated, for instance, you generate a lot of extra heat, heat can damage a tire, certainly that's probably the number one enemy. And that can work with -- in conjunction with any mechanical effects you have from stress and strain to, yes, certainly cause a tire to fail sooner, rather than later.

Q Regardless of the cause of the premature aging, premature aging can result in catastrophic failure in service?

A Well --

MS. DWYER: Objection to form.

By Mr. Kaster:

Q The company might not put antidegradants in, for example. I'm not suggesting Firestone has ever done that.

It's not just service-related conditions, there can be design conditions that could result in premature failure, just as service conditions

could --

MS. DWYER: Object to the form.

By Mr. Kaster:

Q -- do you agree with me?

A Design is very important. We talked about that. We talked about skim stock, antidegradants and whatnot.

The thing is, yes, design is very important. I think where you get a tire engineer or certainly a compounder concern is when you talk about aging, because you have to -- you have to look at that in perspective. It's not just the passage of time. It's not just the seconds ticking off of a clock. It's what's happening during that time. That's what's important to the scientist that's studying that, that's concerned about that. So, you know, with respect to the design elements and the compounds, we sort of already went through the facets there, because you have the mechanical elements, you have things that you can do to prevent the chemical breakdown.

Q Such as the belt edge stresses, the things that you do to try to prevent crack growth; am I right?

A Yes. And then we talked about -- you brought up, rightly so, that you have -- but you've got adhesion, you want to stick -- we're talking about

belts to belts here, you want it to stick to the

belts, you want it to stick to the body plies, you want these things to stick to each other. So from the perspective of modulus or whatever, the material properties that affect the crack propagation or crack growth tendencies, those are material properties, those are generated by the mechanical effects, but controlled or resisted by the material properties.

Q Let me go then to Step 2.

How long has Bridgestone/Firestone been in the process of -- been involved in Step 2 in your three-step description of what's being done or should be done?

A Well, on different levels for a long, long time. There's two --

Q Again, over decades?

A Yes. There's a couple levels to that. First on a component level, if you're developing a rubber component and you're characterizing its material properties at different temperatures, because that correlates to -- you can take one -- you can take one test and you can run it at different temperatures, and one end of the curve correlates to wet traction and the other end correlates to snow traction. And with respect to oxidation, you can

expose a component to the element, itself, through maybe an ASTM test or some in-house developed test, you can expose it to oxygen and see what happens from crack growth propagation or tendencies. Then naturally you have the tire, and that is harder. But that is something, also, the company has been doing for a long time.

Q Over a decade?

A Yes. I mean, whether it's testing tires under extreme heat or pre -- I want to say pre-oxidizing them or attempting to, I mean, that's really, frankly, where most of the work is done on an ongoing basis to create a good so-called aging test.

Q What about Step 3?

A Same thing, because -- and that's --

Q Tell me about what's been done as far as Step 3.

A Well, we have all kinds of tests for durability. And what we've been doing particularly since the Nineties is attempting to integrate Step 2 and 3, in other words, to somehow pre-age the tire -- and "aging" is the wrong term, but it's the easiest one to use -- using temperature or oxygen or a combination of oxygen and nitrogen to affect the tire's material properties, and then putting it on

some kind of durability test, whether it's --

particularly the focus has been on indoor durability because it's more repeatable and it's -- you can do more -- you can run more tests and so on.

Q What about road track?

A On the road?

Q Yes.

A Well, we still do that because that's our foundation, so --

Q I'm talking about aging analysis, Brian, not just testing on the road, but testing in road conditions tires that are prematurely aged or tires that are aged just by the period of time they've been in existence, any type of road testing that you're

aware of that Bridgestone/Firestone has done to determine their durability.

A I don't know of anything offhand. That's not out of the question. But I can't think of anything offhand. The focus has been on indoor durability development in connection with that. And that's because of the need for not only the repeatability, but that's the -- that's the trend. The trend is to test more indoors with better equipment that simulates outdoors quicker so that you can test more tires more repeatedly, get more data.

Q Has Bridgestone, to your knowledge,

Bridgestone/Firestone undertaken any analysis of tires that have aged in the normal course of usage, either fleet tires or other tires that, say, have been in use for a period of time or in storage for a period of time, in order to do any type of analysis on aging or of aging?

A Yes. I mean, some of the work that's being done is repeating work that's been done -- that was done a long time ago or can certainly be done -- has certainly been done for a long time.

Q Who is doing that at Bridgestone/Firestone?

A Well, currently it's different -- really it's being coordinated through ASTM. I think our company is contributing, but other companies are, too. The NHTSA is -- you know, I shouldn't -- the ASTM -- actually, I take that back. It's more the NHTSA that's doing the outdoor characteristics. I think ASTM is keeping an eye on it and participating in some respect. I guess the details on it I'm not positive of. The RMA is involved in it, too, but I believe primarily through the funding of the work.

Q Are you aware of any analysis or testing that Bridgestone has done as to the effects of aging on tire durability?

A Yes. This same type of stuff that we're talking about.

Q I differentiate between Bridgestone/Firestone and Bridgestone. I'm talking now about the parent corporation.

A Bridgestone Corporation of Japan?

Q Yes, sir.

A Well, yes, the answer is yes. I have a general understanding that they've done work because in the mid-Nineties they were attempting to work -- our company was working with them on developing some test protocols, creating some test protocols and

some dissection protocols for the tires.

Q This was for the purpose of determining durability of aged tires?

A Not in the sense of tires removed from the field.

Q No, sir. I didn't mean to say that.

A That's my answer, though.

Q Right.

A It was more in the sense of -- it was more in the sense of developing the Step 2 and 3 item.

Q Okay.

A And, so, yes, you know, I have a recollection that they were doing their thing and we were doing our -- our company was doing our thing.

Q Did they share information with you?

A There was some, yes -- you know, there was some cross -- yes.

Q Did you come to know how long Bridgestone had been involved in Steps 1, 2 and 3?

A No.

MS. DWYER: Objection. Foundation.

A No, I don't.

By Mr. Kaster:

Q You are aware that Bridgestone was involved in all three steps on tire aging?

MR. WEINSTEIN: Objection, foundation.

MS. DWYER: Same.

A Well, I can only imagine that they were because it just is a characteristic of -- it's a fundamental thing, I think. And I guess I don't have specific knowledge of Step 1. You know, Bridgestone Corporation --

By Mr. Kaster:

Q Well, let's skip Step 1. Let's talk about 2 and 3.

A 2 and 3 we've already talked about.

Q I'm talking about Bridgestone now.

A Bridgestone Corporation works in a lot of hard markets around the world, particularly in the Middle East and Australia, and I bet dollars to

doughnuts they do some work.

Q Who at Bridgestone/Firestone would be the person most knowledgeable of the exchange of information on tire aging between Bridgestone/Firestone and Bridgestone, or what department?

A Well, that's certainly information that I could gather and certainly answer a lot of questions about because I have an understanding of the work that was done. And beyond that, that's a good question, because that work was done in a number of different

departments across Compounding and the Test Division. To find somebody else better connected, I guess I'd have to research it.

Q What department might be the department that would be dealing with tire aging in general?

A When you say "aging," we're talking about the -- which part of the so-called aging, because the answer is different?

If it's the chemistry side, it's going to be Compounding. If it's on the test development side, it's going to be within the Test Division. And there's some cross-connection there obviously. And I think you can even have the Advanced Tire Engineering Department involved because of -- I think they could even be involved. And then

naturally Tire Development always has its fingers in

on things like that. So it's probably all of them.

Q Have you been exposed to any Bridgestone aging data in your role in litigation?

A No. Not that I can think of, no.

Q You're familiar with the C95 Program?

A Yes.

Q If I recall correctly, back in -- around July of '94, Mr. Ono sent out a letter in reference to what was then called Project 95; is that correct?

A It sounds right, yes.

Q And you've read that letter and have been asked about it before; haven't you?

A I believe so.

Q And one of the things that Project 95, which then became C95 -- correct --

A Yes. I think for all practical purposes, yes.

Q -- one of the goals was to implement cost reduction measures; is that correct?

A Yes.

Q And among those goals was what you have referred to in the past as commonization?

A Standardization or commonization, yes.

Q Tell me what commonization means, Brian.

A Well, it would be essentially synonymous with

standardization in that wherever we have -- we have

so many different tires being produced in a plant with so many different components that anywhere you can share the components or reduce the number of components that you're designing into a tire -- for instance, one good example may be -- I don't want to get too off the beaten track, but we talked about this undertread, this thicker thing in place of the

belt edge filler. That's sort of a commonization, standardization issue. But really it took two components out, the belt edge filler, and replaced it with an undertread that we were already putting there, but we just put it in thicker. That's the kind of thing that we are discussing.

And there are other situations where -- and this is a good example, too: Some tire plants, particularly the Wilson Plant, produces a lot of OE tires, and they had something like 20 different tread compounds, you know, that are -- I'm

Q They're all similar.

Am I right, they were similar, but not identical?

A It's the kind of thing where what you can do is say to a tire engineer, "If we can eliminate two out of

the 20, that's a 10 percent reduction in tread

compounds, can you pick one from the 18 that are left," and that's the kind of thing management did. It was certainly doable. It's the kind of thing that I did personally.

Q Would you agree with me that it was an effort to take similar components and make them identical?

A Where there was similarity, where you could do that, yes. And where there were multiples where it was unnecessary, because you can commonize on one thing or another, that's the commonization element. Those are the efforts that were involved, among others.

Q During the course of your tenure at Firestone or Bridgestone/Firestone, you have had occasion to see what I'll refer to as monthly reports; is that correct?

A There's all kinds. There's -- "monthly report" is obviously a loose term. You may be referring to some corporate QA monthly reports.

Q That's exactly what I'm talking about, from Halverson to Martin.

A Yes, I've seen some of those.

Q And they address, among other things, performance of tires in the field?

A Yes. Yes, certainly.

Q And they often include adjustment data?

A Yes, because the individual involved was usually responsible for obtaining it for different parties, and Corporate QA took a position where if somebody in the company was looking at data, they wanted to look at it, too, so it's often in there.

Q Have you looked at any of the monthly reports that deal with Steeltex adjustments or problems with Steeltex tires?

MS. DWYER: Objection to form.

A I may have. I mean, I don't have a specific recollection.

By Mr. Kaster:

Q You didn't in reference to this case or this deposition?

A No, sir.

Q What was your involvement, if any, in the design of the Steeltex tire line?

A Well, I had a tire that I worked on briefly for the Ford Ranger that was a Steeltex R4S. I believe we sourced it out of Joliette. And I think maybe I already said it was for the Ranger.

Q And --

A I think it was for export.

Q I'm sorry, I didn't mean to interrupt you.

A I have recollection of working with -- particularly

with the Steeltex tires that were applied to the Excursion, because I recall helping a little bit with tread design issues and possibly some mold design issues. There were other engineers working on them, but --

Q Who would be the lead engineer?

A Well, on the Excursion it was a couple people. It started with Sean Copeland, but it ended with Jim Bethea.

Q That's a Load Range D tire, if I remember right.

A Yes.

Q Then it changed later to a Load Range E?

A Well, not for the Excursion. The complicated thing that you may be -- that may be confusing you is, we supplied it as original equipment to Ford for three model years, I believe --

Q As?

A -- as a Load Range D, but when it went out of production for Ford, we simply eliminated it --

Q Okay.

A -- and we only supplied Load Range Es to the aftermarket.

Q As part of the recall?

MS. DWYER: Objection to the form.

A Well, it was before the replacement program in

January, February 2004. We phased out at Ford. We ended our supply to Ford probably about a year before that. I think we maybe made it into the 2003

model year, which would be the end of 2002. So I'm estimating by early 2003 we would have been done producing the Load Range D. I'd have to check the production to be sure.

By Mr. Kaster:

Q Well, I had a recollection that as part of the recall, Load Range D tires -- Steeltex Load Range D were replaced with Steeltex Load Range E.

Am I mistaken?

A No, you're not.

MS. DWYER: Objection to the form.

By Mr. Kaster:

Q Tell me about that.

A In the replacement program, we only had the Load Range E on the shelf at the time.

Q Okay.

A But Ford I believe had Load Range E tires on the Excursion as original equipment, at the time produced I believe by Pirelli, and so Ford had a list of approved tires for replacement, and it included our shelf Load Range E. We didn't have a

D at the time.

Q Right.

A And then the Pirelli Load Range Es. And I'm recollecting maybe incorrectly, but some other Load Range Es, like maybe a B.F. Goodrich or something.

Q Right. I interrupted you. You were talking about your involvement in the design of Steeltex tires.

A I think maybe just to go back a little bit further, I was involved maybe deeper -- not maybe, but I recall being involved deeper in the tread pattern of the R4SII.

Q What about the Load Range E, did you have any involvement in that?

A Well, it's the same -- the same tread pattern was used on Ds and Es. I'm sorry, the Load Range E version of the R4SII had a different styling in the upper sidewall.

Q But the tread pattern would be the same?

A The tread pattern was the same, right.

Q Did you have any involvement in the design of Load Range Es -- in any of the components of Load Range Es that were different than Load Range Ds?

MS. DWYER: Objection to the form.

A Well, the Load Range E Steeltex R4S was -- the design wrapped up at the end of '97, and I don't

have a recollection. I was in the group at the

time. I don't recall how much, if any, involvement

that I had in the development process. There are a number of differences between the Es and the Ds. But because they were wrapped up differently in type, I don't recall when or how I was involved in the Load Range E R4SII.

Q The Load Range E replaced the D?

A No. We developed Load Range E tires for F250s and F350s first. That wrapped up -- I think we started supply in early '98. It was an all-new size, I believe, if I'm right, for Ford for those vehicles.

Q All right. Was that an R4S?

A We had a Steeltex A/T and an R4SII, Roman Numeral II.

Q What's the difference between the A/T and the R4S?

A On the F250 primarily -- 250 and 350 -- the Load Range Es you're asking about?

Q Yes.

A The big difference is in the tread patterns and tread depths.

Q It's an A/T and all-terrain tire, so it's going to have a more aggressive tread?

A A four-rib tread pattern with deeper tread depth. It was I think 18/32 tread depth, versus 14/32.

Q What about the D, was there an A/T R4S D, as well?

A About two or three years later we finished the development of the Load Range D, and those were supposed to be for Excursions only because they called for a D, and the F250s and 350s called for an E.

Q Was there an A/T and RS for the D, as well?

A Yes.

Q So the tread patterns for the D for the A/T would have been the aggressive tread, and the R4S would have been more what you call a road tire?

A It was more an on road, commercial tire.

Q D went out of production, and you replaced the Ds with Es as far as the Excursion was concerned?

MS. DWYER: Objection to form.

A Yes. If a consumer came back to us in the next year or two before the replacement program and we were out of Ds, they would have gotten an E unless -- I'm not sure what Ford said about that.

By Mr. Kaster:

Q When did you stop making the Ds?

A Almost right when we stopped supplying to Ford. There was a limited market for them, so having that product on the shelf wasn't fruitful for us.

Q It would have been approximately what year?

A It would had to have been early 2003, maybe even

late 2002. Supply would have stopped a little after the production stopped. I'd have to look at the production records, but that seems about right timing-wise.

Q I think that the production probably stopped in December of 2002; does that sound right?

A It sure did, yes.

Is that right?

Q I have the benefit of things that you don't have, and I apologize.

A Well, that's my recollection. That seems right.

Q I thought you'd agree with that.

Did you have any involvement in the manufacture of Load Range D or Load Range E Steeltex tires?

In other words, did you go to the plants and were you involved in the manufacture at any plant?

A It's not my role to do that. I've been to the plants in question, you know, on --

Q Did you go there in reference to Steeltex tires?

A Not that I remember, no.

Q Load Range E tires were made at Decatur -- Steeltex Load Range E were made at Decatur, Joliette.

Where else?

A At Aiken we made -- boy, you're going to make me

think. We made Ds. I'm sorry, we made Ds only at Joliette. The Es were made at Joliette, Decatur and Aiken.

Q And the specs that you brought with you today would have been for Load Range E at all plants?

A No. We brought one spec for the subject tire at Decatur only.

Q Were there different specs for the same tire at different plants?

A Yes.

Q How would they be different?

A They would have whatever minor variations are necessary for the equipment at the plant.

Q The gauges and chemical components would be the same?

A Largely, yes. I'm trying to think if there would be any variants. It was primarily in the manufacturing of the tires. And that's simply because -- and we're talking about Load Range Es strictly here because the Load Range Ds would have differences in design, which would have differences in compounding, as well as structural differences.

In the situation that we're talking about with the Es at different plants, we were supplying them

as original equipment. And the intention there is

to make the tire according to whatever the manufacturing capabilities are at the plant, but have the product come out similar so that we can put it onto the same platform at the car company. We go through a process to ensure that.

Q The OE, the original manufacturer, Ford, for example, wouldn't want you putting different tires than their specs called for on the vehicles?

A Right.

Q Okay. And you complied with their requirements?

A Yes.

Q Let me go to Decatur for a minute.

You're familiar with the Decatur Plant Task Force; aren't you?

A I've heard of it. There tends to be a certain investigation that's referred to as the so-called Decatur Task Force.

Q An investigation regarding what?

A In that particular instance, although there are always -- there is always a number of different projects going on at a time, so I think "Task Force" is too general, but that -- the "Task Force" nomenclature is too general. But in this situation, there was some concern with primarily uniformity and

appearance issues and scrap rates at the

Decatur Plant, so there was a special evaluation of their manufacturing process and their quality assurance processes in order to reduce scrap and improve appearance and tire uniformity. They were also at the same time evaluating any situations involving durability or any complaints from the field regarding durability.

Q There had been issues about durability related to Decatur-built tires; hadn't there?

A There were a number of situations over the years that cropped up. There was a situation -- for instance, on light truck tires there was one involving a particular Dueler HT tire that we were producing in the mid-Nineties that comes to mind.

Q Also an issue with the ATX or Wilderness tires?

A Well, obviously subsequently, but not at the time of the so-called Task Force.

Q I see. The Task Force was not in operation when the recall occurred of the ATX or Wilderness tires?

A I don't believe so.

Q And that plant closed down when, about December, 2001?

A Yes. It phased out of production over about a

six-month period, and closed in December of '01.

Q If I wanted to get the Decatur Plant Task Force

records, where would I go to get those?

A Well, you'd have to inquire with Firestone obviously.

Q Do you have access to them?

A Well, not particularly. I mean, they're in -- we have some in a repository that I'm aware of, there's a document repository, that related to the radial ATX and Wilderness A/T Tires.

Q Where is that repository?

A It's here in our Tech Center somewhere.

Q Do you have access to the repository?

A Well, I can request things from it. I don't -- I can't walk into it and take things out. I believe the documents are on CDs.

Q I see. Now, when the 2757 formula was changed, the AO package, what testing was done before the change was made to determine its effect on tire durability?

A Well, I don't have specific knowledge at the moment of any specific testing. There may have been something evaluated by the compounders, but I guess I'm just not specifically aware of what it was or when they did it.

Q Well, in the normal course of events, Bridgestone/Firestone wouldn't change the skim stock

formula, especially if you applied it to other

components, as well, without doing some sort of tests and analysis, would they?

A You're certainly right. It may not be necessary for them to do a traditional, full workup on something like that because they considered it, and it inevitably turned out to be a tweak of a proportion where with their experience with the components, the chemical entities that they were changing, they reduced one and added the second, and my understanding is that those two components we had lots of experience with chemically, and what they would do, what their performance effects would be. And considering that, even though the total was increased, it was a small amount, it wasn't -- I'm sure it wasn't expected to have any significant effect on the material properties.

Q Where would you go to obtain whatever testing or analysis was done?

A I'd go right to the Compound Development Department and ask them about it.

Q What about subsequent to the change, has there been

any type of testing or analysis to determine the effect of the change?

A Well, no, not specifically. I mean, we do lots of durability testing though. And since we continue to use J2757, any time you test a tire for durability with that compound, theoretically you're evaluating -- obviously you're evaluating everything about that, including the belt skim, including the steel cords, whatever else is in the tire.

Q Nothing specific as to the AO package, it's just general durability testing?

A Right.

Q Tell us the type of durability testing that is routinely conducted, let's say, on the Steeltex Load Range E tires.

A Well, once you complete the development phase, you -- when you put it into production, the routine type of testing that occurs is compliance with particularly -- particularly compliance with the DOT requirements and internal company standards that reflect the DOT compliance requirements or add to them.

Q Other than DOT-required testing, what other durability testing is routinely conducted at Bridgestone/Firestone on tires such as this Steeltex Load Range E?

A Well, we have our own in-house versions of endurance tests that are conducted to reflect the DOT

requirements. The only other possibility is any type of ongoing special QA analysis where they regularly select tires to test outside of the standard test programs. I can't recall anything specific to Steeltex, though.

Q Okay. What about on-the-road testing?

A Well, on-the-road testing is typically conducted in the development phase, except for situations involving those maybe special QA-type tests, which, like I said, I can't think of anything specific to Steeltex.

Q I see.

(Plaintiffs' Exhibits 6 and 7
were marked for identification.)

By Mr. Kaster:

Q Do you recognize what I've marked as Exhibit 6?

It's that Engineering Analysis Report, a poor copy of it, that we talked about previously.

A Well, the whole report was really long. This seems to be a summary.

Q Yes, sir, just a summary of that.
A Yes.
Q You've seen that before?
A I think so. It seems like it's off of the NHTSA website. I probably have seen this at one time or another.

Q Look at 7 and tell me if you recognize what 7 is.
A Well, frankly, this appears to be a letter to --
Q It's actually several things. Look at it first, Brian, before you tell me.
A Oh, yeah, I guess maybe these aren't attached.
Q I want you to look at it. I think all that's a packet that came to me that way. I want you to look and see if you're familiar with it before you comment.
A (Witness complies with request.)
Okay.

Q If you look at that first letter, it says "attachments," and I believe everything that's there is part of it, but just take a look.
A Well, there's a few things here.
Q Are they things you've seen before?
A Some of them, I think. Not this stuff at the end. (Indicating)
Let me tell you what I think we've got here.
Q Let me just look at it.
A Well, I'm not sure about that last page. When I say "stuff at the end" -- I'm going to divide it into three sections.
Q Go ahead and do that.

A It seems like the first page is a stand-alone letter notifying NHTSA that the company was going to conduct a replacement campaign for Load Range D LT265/75R16 tires --
Q Right.
A Steeltex A/T.
Q Right.
A And then there appears to be a letter dated the same day, to the same person, saying that there was an attached letter that was a sample letter that we would send to consumers --
Q Okay.
A -- for that replacement campaign.
And I guess for purposes of this Exhibit, the first page is the first letter. The second page is the second letter. Page 3, 4 and 5 are the attachment to the second letter. And then my familiarity drops off there. There's maybe -- boy,

it looks like some documents that were sent possibly to the company acknowledging the receipt of the notification of the replacement campaign.

Q All right.

A And that seems to run -- I don't know what page we're on, but it seems to run -- it's entitled "Acknowledgement Fax Sheet of Receipt of Defect

Information Report Submitted Under 49 CFR Part 573."

And it seems just from the appearance of it -- and I'm just -- from the copy, it looks like it runs for four pages. But then are some additional pages that maybe are a part of it. I'm not sure. They look different. They look like they're -- they don't look like they're faxed. They look like they're better quality printouts. So maybe it's all the same thing.

Q Well, looking at it, do you see that it refers to the recall of the Load Range D, in general, these documents?

A I didn't read every page, but it looked that way, yes.

(Plaintiffs' Exhibit 8 was marked for identification.)

By Mr. Kaster:

Q I'm going to hand you what I've marked as Exhibit 8 and ask you if you're familiar with that document.

A I'm not sure. I have an understanding of what it's about. I'm not sure I've seen this very piece of paper before.

Q What is your understanding of what it's about?

A Well, the subject here is a recall of the LT235/75R15 Steeltex radial A/T, 42 tires recalled from the LeVergne Plant, it looks like produced in one serial week in 1993. They figured out through the course of some cut tire analysis, I believe, that they had, as it says here, improper curing -- there was an improper cure situation, and then they isolated tires in the warehouse, and then figured out that some got shipped before they figured out that this happened, and so that led to the recall to get the limited quantity back.

Q May I see it back, Brian?

A Sure. It was either cut analysis or somebody found the machine wasn't functioning right or something. I can't remember what it was.

Q In any event, an insufficient cure can result in tread/belt separations in service?

A Well, it can involve -- yes, it could. I think it

would probably manifest itself in some other way first. But either way, we wouldn't -- you know, if we know about it, we wouldn't want them to remain in service, that's why we went and got them back.

Q The document part of it dated May 7 of 2003 from NHTSA is an "Acknowledgement Fax Sheet Of Receipt Of Defect Information." I'm going to read part of it and ask you if agree with it. They start out by, "Subject: 42 LT235/75R15 Steeltex Radial A/T," and they go on with the DOT serial numbers.

It says, "Due to an insufficient cure in the tread shoulder area, the tire may develop irregular wear, noise, or vibrations and with extended use, the tires with this condition may experience a tread separation."

Do you agree that those are potentials for insufficient cure, potential untoward results?

MS. DWYER: Object to the form.

A Yes, I think that's what you asked me before. And, yes, I think it -- the first thing they say there about irregular wear and maybe chunkouts are probably more likely to occur first. But, you know, with that being said, I think any time the -- the cure process is very important, so any time there's insufficient cure or improper cure, we would be concerned about durability, period, and that could include belt separation.

Q Or tread detachment?

A It can lead to that, sure.

Q It goes on to say, "Tread separation of the tire can possibly lead to a vehicle crash, resulting in serious injury or death."

Do you agree with that, as well?

A Well, we've seen that that happens. It's not very common, but it does happen.

Q Well, indeed in Exhibit 6, in the NHTSA Summary Report, and I quote, and I've highlighted this for you, I'll hand it to you after I read it, "Belt-leaving-belt tread separations, whether or not accompanied by loss of air from the tire, reduce the ability of a driver to control the vehicle, particularly when the failure occurs on a rear tire and at high speeds. Such a loss of control can lead to a crash."

You agree with that, as well; do you not?

A Well, we've certainly seen it happen. Testing has shown that it's not -- certainly not necessarily a given that a crash will happen. There can be

mitigating circumstances that can affect it, whether it's the driver or other traffic conditions. But certainly more often than not it does not result in a loss of control. But it has happened, sure.

Q One of the reasons that you are concerned about building a tire that does not experience tread detachments is a concern about the potential at least for the vehicle to lose control in a crash and someone being injured or killed, correct?

A I think that's certainly the case. But, you know, fundamentally we don't want our customers to be

unhappy with the product, period. We certainly

wouldn't want to see them in a safety-related situation such as an accident. That goes without saying.

But tire durability over the years has gotten so much better that it's really more about customer satisfaction. And changes we've made over the years have been focused on getting our warranty rates down as low as we can get them, about keeping the customers we have. Because it's such a competitive business, we want them to be extremely happy with the product and come back to us. But with that being said, there are situations where accidents occur, so it goes without saying that if you can prevent a separation from developing and leading to a detachment, that's something certainly we'd pursue.

Q It's not just an undercure that can lead to premature detachment, you'd agree with that?

A Right. It's usually an operating condition. It's usually overdeflection or some type of damage to the tire.

Q I'm going to go to overdeflection, but I want to make sure we understand each other.

It can be related to manufacturing problems,

it can be related to design problems, it can be

related, you believe, to use problems?

A Yes.

Q Now, on the overdeflection problem or underinflation, one of the reasons that you want a Halobutyl liner that's impervious to air loss or at least to the extent that's feasible is that you don't want the tube to leak excessively during its useful life, correct?

A Right.

Q The inner liner is designed to ensure that you don't have excessive leakage of air, right?

MS. DWYER: Objection to form.

A Right. It's -- right.

By Mr. Kaster:

Q And the inner liner in the subject tire in the past has not been able to meet the General Motors criteria, and it had to be reformulated in gauge in order to meet that criteria, correct?

MS. DWYER: Objection, foundation.

A That's true for very small tires, usually -- it's size dependent. The larger the tire -- I'm sorry, the smaller the tire, the more of a necessity to have either a better performing inner liner or a thicker inner liner.

By Mr. Kaster:

Q Well, indeed it was both P and LT-metric tires for General Motors that needed to have a gauge of .060 to meet their requirements for air lossage per month; am I correct in that?

A Well, that certainly is true. Light truck tires were standardized on .060, like the subject tire. There were some passenger car tires at General Motors that had to be increased in their gauge in order to get past -- in order to meet General Motors requirement. But they were -- as I said, they were smaller sized, economy car-sized tires.

Q Has the inner liner gauge or chemical composition been changed for Bridgestone/Firestone LT tires since January of 1999?

A I believe it has. I believe -- let me think. In the fall of 2000 we changed it for some passenger car tires, but not LT.

I think two years later, in 2002, we increased the gauge across the board for LT tires and some passenger tires. I'd have to check the specifics of that, but I believe it certainly included LT tires.

Q What was the change, please?

A Well, we increased the gauge. And off the cuff, I don't remember the number. I'm afraid to speculate.

If my recollection is correct, and this is purely my recollection, it was .038 times two, which I believe would be .076 for total gauge. But that's -- I'd have to double-check to be certain.

Q And from 1995 to 1999, was there any change in the chemical composition or gauge of the liner use in the Steeltex tire?

A No. There was the nomenclature change sometime in that window, but I don't know of any --

Q You changed that.

A Right.
Q But we've already talked about that.
A Right. I don't know of any other changes.
Q We've gone for another hour.
Do you want to take a five-minute break,
ten-minute, whatever?
A Sure.

(Recess taken.)

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MR. KASTER: Brian, I think that's all I've got for today. I want to ask you some questions about some MDL documents, but I need to work it out with your Lawyers. And what I would suggest -- and we'll deal with that later. We'll probably just do it by phone. I

don't have any other questions for you today

at this juncture. And we'll ask you some questions on the MDL, if appropriate, if I can, later. And if not, then you won't see me again until trial. Thank you.

THE WITNESS: Thank you.

MS. DWYER: Anybody else?

MS. THOMAS: No.

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REDIRECT EXAMINATION

By Ms. Dwyer:

Q I have a couple.

Mr. Queiser, you alluded to in your testimony in response to Mr. Kaster's questions about some design differences between the Steeltex A/T tire that's the subject -- the Steeltex R4SII tire that's the subject of this case and the Steeltex A/T Load Range D tires.

Do you recall that?

A Right. We talked about it a number of different times.

Q Can you describe, and if you will, in the most exhaustive way you can, what differences in design, if any, there are between the Steeltex tire involved in this case and the Steeltex A/T Load Range D tire?

A Well, if it's okay, I'll hit the highlights because tire engineers could probably go on for a long time. I think you start with an understanding of the basic stuff. Load Range Ds and Es, while these -- while the tire we're talking about here is the same size, they're different load ranges. What it really means is the Load Range E tire carries more load, in essence, because of the higher pressure that it is

designed to contain. The difference is on the order of 300, 400 pounds, if I recall correctly. Well, wait. I can probably tell you more specifically. It's about 400 pounds. What that means is that the service is different. And so what the tire engineers do is design the tire to make sure that it can maintain the service level that it's designed for.

And they would start -- in this case you have totally different tread patterns. The Steeltex A/T had a four-tread rib design, it was deeper in tread depth. Mr. Kaster and I actually talked about that. The A/T had I believe 18/32 of an inch tread depth, versus the R4SII, which was 14/32. It's a difference of an eighth of an inch, which is a lot in the tread depth realm.

The tread patterns were very different. But I won't go into the minutia of that. That's what I'll skip.

As far as the structure goes, getting down from below the tread, the tread compound was different, in fact. They're both light truck tread compounds, but they were different. The belt structure was different in a few ways, primarily in belt end count. The R4SII, the tire that's the subject of this case, had a higher belt end count. Frankly because of the nature of the Load Range E tire and the 80 psi design pressure, in order to resist severe -- I want to say severe impact damage or plunger-type damage, we perform a test called plunger, which really dictates the steel belt package we put into different tires, particularly light truck tires.

The belts were different in crown angle, which is the angle of the steel cords. And they were also a little different in width, a millimeter or two different in width.

The body of the tire -- there were polyester body plies in both cases, but the Load Range E tire had a stiffer sidewall with a higher, stiffer bead filler and a more traditional turnup, where the body plies turn up around the beads. And that's to not

only accommodate the ride and handling desires of

the vehicle, but also to give the tire some additional stiffness from the load-carrying capacity that it would need.

Those are the major differences. You could get into some minor things. The molds were a little

bit different naturally because of the tread pattern, but they were a little bit different in size in part because of the tread pattern. That's all that occurs to me at the moment

MS. DWYER: Thank you. I don't have any other questions.

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RE-CROSS-EXAMINATION

By Mr. Kaster:

Q Would the Load Range D and E be cured in the same molds, but just with different patterns in them?

A Well, no. They were different in some key dimensions. And it might have been driven because of the pattern, that much I'll say, because when I reviewed the specs, there were similarities in the arc and there were similarities in the curing width, for instance, and that's in part because they're the same size. And we have some standards associated with those things.

Q That's what I was thinking.

A But you couldn't interchange them.

Q Right.

A In fact, even though the tread patterns were different, and let's just say I want to create a hypothetical and exclude that difference, you still couldn't do it because the tires were sized differently to fit in those different molds, even if they were different because of the tread pattern.

Q But they'd go in the same curing presses?

A Yes, the presses are interchangeable. You can put -- this is wrong. This isn't right. I was almost going to say you could put any mold in it. Actually, that's not true. Some presses are for different molds.

Q But you could put these molds in the same press?

A Yes.

MR. KASTER: Okay. That's all I have.

MS. DWYER: I think we're finished.

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(Deposition concluded at 11:25 o'clock, a.m.)

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I, BRIAN J. QUEISER, certify that I have read this transcript consisting of one hundred three (103) pages in its entirety, and that it is a true and correct transcription of the testimony given by me.

BRIAN J. QUEISER

Subscribed and sworn to before me this _____ day of _____, 2005.

Notary Public
My commission expires: _____
- - -

C E R T I F I C A T E

STATE OF OHIO,)

)SS:

SUMMIT COUNTY.)

I, Joyce L. Zingale, a Notary Public within and for the State of Ohio, duly commissioned and qualified, do hereby certify that the within named Witness, BRIAN J. QUEISER, was by me first duly sworn to testify the truth, the whole truth and nothing but the truth in the cause aforesaid; that the testimony then given by the Witness was by me reduced to Stenotypy in the presence of the Witness; afterwards transcribed by computer-aided transcription, and that the foregoing is a true and correct transcription of the testimony so given by the Witness as aforesaid.

I do further certify that this deposition was taken at the time and place in the foregoing caption specified, and was completed without adjournment.

I do further certify that I am not a relative, Counsel or Attorney of either party, or otherwise interested in the event of this action.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal of office at Akron, Ohio, on this 21st day of August, 2005.

Joyce L. Zingale, Notary Public
in and for the State of Ohio.