

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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TETRA TECH CANADA, INC.,  
Petitioner,

v.

GEORGETOWN RAIL EQUIPMENT COMPANY,  
Patent Owner.

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IPR2019-01581  
Patent 8,081,320 B2

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Record of Oral Hearing  
Held: December 3, 2020

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Before HUBERT C. LORIN, JENNIFER S. BISK, and  
KRISTINA M. KALAN, *Administrative Patent Judges*

IPR2019-01581  
Patent 8,081,320 B2

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The above-entitled matter came on for hearing on Thursday, December 3, 2020, commencing at 12:57 p.m. EST, by video/by telephone.

P-R-O-C-E-E-D-I-N-G-S

12:57 p.m.

JUDGE BISK: Good afternoon. This is Judge Bisk. I have  
Judges Lorin and Kalan on the line with me.

This is a hearing in 2019-01581, Tetra Tech Canada, Incorporated  
versus Georgetown Rail Equipment Company.

Just a couple administrative announcements. First, this is a public  
hearing, so -- I don't think we have any confidential information in the  
record, but just a heads-up that if there is anything confidential don't talk  
about it on this call.

And the second announcement is to please stay on the line after we  
adjourn, just for a minute, to make sure that the court reporter has all of the  
spellings and information that they need in order to write up the transcript.

Each side has been given 30 minutes. We'll start with Petitioner.  
And you can save as much time as you'd like -- well, I think there's a limit,  
but you can change -- save some time for your reply.

Okay. Petitioner, whenever you're ready.

MR. PARKER: Hello. This is Aaron Parker. I am lead counsel  
for Petitioner, Tetra Tech Canada, Inc., and my backup counsel, David  
Reese, is here as well, and he will be presenting on behalf of Petitioner  
today. Thank you.

1 JUDGE BISK: Okay. Thank you. Do you want to save time for  
2 your reply?

3 MR. REESE: Yes. I would like to reserve five minutes for rebuttal.

4 JUDGE BISK: Five minutes?

5 MR. REESE: Yes.

6 JUDGE BISK: Okay. I will attempt to keep my eye on the clock,  
7 so you'll -- I'll give you 25 minutes, and then I'll let you know if you're  
8 running into your rebuttal time.

9 MR. REESE: Very good. Thank you. That also reminds me to  
10 start my own clock.

11 JUDGE BISK: Yes.

12 MR. REESE: Okay.

13 JUDGE BISK: Okay.

14 MR. REESE: Thank you. Well, good afternoon, Your Honors.  
15 The claims in the '320 patent challenge in this proceeding are unpatentable.  
16 The prior art outlined in the petition, along with the well-supported  
17 testimony of Dr. Papanikolopoulos, together with the other record evidence,  
18 demonstrate that the '320 patent claims directed to a system and method for  
19 determining rail seat abrasion or railroad track and compensating for tilt of  
20 the track when determining RSA would have been obvious to a person of  
21 ordinary skill in the art.

1           In response, Patent Owner GREX provides no evidence other than  
2           the conclusory, unspoken opinions of its expert. Also, GREX improperly  
3           implies the legal standings for obviousness; for example, attacking  
4           references individually, improper bodily incorporation, relying on the wrong  
5           standard for teaching the lay, while mischaracterizing, and -- (Telephonic  
6           interference.) -- evidence. Thus, the Board should find this claim obvious.

7           Moving to slide 2 of the demonstratives, the petition sets forth three  
8           grounds of unpatentability. Unless the Board has any specific questions, I  
9           would like to start with the first ground in Claim 1.

10          Moving to slide 4, it was undisputed that Villar's automated track  
11          inspection system discloses the majority of claim 1's limitations; namely,  
12          generating and analyzing railroad track images to determine track defects,  
13          including crosstie defects, to manage replacement logistics and prevent  
14          future accidents. Villar claims that its system can be used to determine the  
15          measurable aspects of the railroad track from other images -- other  
16          measurable aspects of a railroad track from the images, excuse me.

17          Moving to slide 5, Choros determines the presence of rail seat  
18          abrasion, RSA, by measuring the vertical distance between a rail base and  
19          crosstie at top surface heights.

20          JUDGE BISK: Can I interrupt you for a minute?

21          MR. REESE: Yes.

1 JUDGE BISK: And ask -- I don't think in the petition there is any  
2 particular definition of rail seat abrasion. But in the Patent Owner  
3 response, the Patent Owner -- this is page 27 of the Patent Owner response --  
4 says that Rail seat abrasion is a measure of the vertical distance or depth of  
5 abrasion into the top surface of a crosstie. And I'm wondering, do you  
6 agree with that definition of rail seat abrasion?

7 MR. REESE: Well, just as an initial matter, I note that the  
8 specification -- the claims nor the specification in the '320 patent provide  
9 any specific definition or requirement or disclaimer as to the specific  
10 meaning of rail seat abrasion.

11 However, that said, generally, rail seat abrasion -- as shown on slide  
12 5 of the demonstratives -- is measured by taking the difference between the  
13 top of the rail base and the top of the crosstie. So, in essence, you are  
14 looking for the depth that the rail has cut into the crosstie.

15 JUDGE BISK: Okay.

16 MR. REESE: So that abrasion, that circle right there on --

17 JUDGE BISK: Yes.

18 MR. REESE: -- demonstrative slide 5, that's what we're kind of  
19 looking for.

20 JUDGE BISK: So that seems to be consistent with the Patent Owner.  
21 So I think everyone agrees what rail seat abrasion is, but there is a difference  
22 in whether there is -- maybe there is a difference between whether there is a

1 specific way of measuring it that's required by the claims and whether there  
2 is a minimum depth required by the claims. Is that -- is my understanding  
3 correct in that?

4 MR. REESE: Yeah. I think that's correct. Again --

5 JUDGE BISK: Okay.

6 MR. REESE: -- I think the claims refer generally to rail seat  
7 abrasion. They don't provide any specifics as to this -- the amount of  
8 depth, right? Like --

9 JUDGE BISK: Right.

10 (Simultaneous speaking.)

11 MR. REESE: -- were it to happen --

12 JUDGE BISK: Okay.

13 MR. REESE: -- yeah.

14 JUDGE BISK: Okay. Thank you. Go ahead.

15 MR. REESE: Okay. Moving to slide 6, as presented in the petition  
16 and supported by the testimony of Dr. Papanikolopoulos, together with other  
17 record evidence, it would have been obvious to implement Villar's  
18 automated system with Choros' method of measuring rail seat abrasions,  
19 automatically determine whether RSA is present along a railroad track.

20 In addition to the automated teachings of Villar, one would have  
21 been motivated to make the combination to facilitate more frequent and  
22 accurate measurement of critical track parameters while avoiding time,

1 accuracy, and safety issues associated with human inspectors, as evidenced  
2 by Kanade, Trosino, and Newman, as shown on slides 7 and 8, but would  
3 have also been motivated to make the combination in response to two high-  
4 profile derailments in 2005 and 2006, which were caused by rail seat  
5 abrasion, as well as the Federal Railroad Administration's initiatives, task  
6 forces, committees, meetings, and proposed rules following the derailment  
7 making RSA detection a priority as shown on slides 9 and 10.

8 At bottom, implementing Villar's automated inspection system to  
9 determine the presence of RSA, would simply be an extension of Villar's  
10 early automated track inspection teachings, relating to increasing railroad  
11 safety.

12 Moving to slide 11, in response, GREX has a few arguments. But  
13 first, moving to slide 12, GREX alleges that Choros does not disclose or  
14 suggest a process, but the Petitioner relies on Villar, not Choros, for the  
15 claimed processor. This is the first of many examples of GREX improperly  
16 attacking the references individually, and the proposed ground is based upon  
17 the teachings of a combination of references.

18 Moving to slide 13, second, GREX, relying on its expert, contends  
19 that one would not have looked for us because, quote, implementing even  
20 the simplest concept into machine vision is very difficult and time-  
21 consuming, end quote. But GREX nor its expert provides any critical  
22 reason or supporting evidence explaining why this is the case.



1 First, Dr. Bovik's statements are conclusory, and he cites no  
2 supporting evidence or exhibits. In fact, the only exhibits submitted by  
3 GREX in this case are Dr. Bobitz's declaration and CV.

4 Moreover, as shown in slides 14 through 16, those statements are  
5 contradicted by record evidence, demonstrating the well-known state of the  
6 art in 2009 of automating manual inspection tasks, including crossties.

7 As shown on slide 15, Villar itself demonstrates that it was well-  
8 known in 2009 to automate manual inspection tasks, including crosstie  
9 inspections, defects, cracks, splits, missing and skewed ties, and even tie  
10 plate cut. And as shown on slide 16, Villar also contemplates using other  
11 known suitable image processing tools and software, including algorithms,  
12 to determine or detect other measurable aspects in the railroad track.

13 Finally, I showed on slide 17 Dr. Bovik's statements are fully  
14 contradicted by the testimony of GREX's CEO and technical advisor giving  
15 to tie plate cut, again which Villar already automates, involves a similar  
16 analysis of RSA.

17 JUDGE BISK: I have a question about this testimony. Patent  
18 Owner says that the testimony is inapplicable because it's related to other  
19 patents and not the patent at issue. Do you have a response to that?

20 MR. REESE: We disagree. We do think it is relevant to this  
21 proceeding because it's relevant to GREX's argument that it would not have  
22 been obvious to automate rail seat abrasion because, one, because this

1 certain automation would not -- would have been difficult or time-  
2 consuming. So we think it's relevant because, for one, it is already  
3 automating tie plate cut. And we have testimony --

4 JUDGE BISK: Is this testimony -- do we have any evidence that this  
5 rail seat abrasion in this testimony is used in the same context or means the  
6 same thing as in the patent that we're looking at?

7 MR. REESE: No. I don't believe --

8 JUDGE BISK: Okay.

9 MR. REESE: -- that -- I mean, so the testimony from the CEO and  
10 technical advisor is referring to the measurement of measuring rail seat  
11 abrasion and tie plate cut. And what happens -- really, the difference  
12 between tie plate cut and rail seat abrasion, in both cases you are measuring  
13 the top surface side of the crosstie. The difference --

14 JUDGE BISK: And these are -- this testimony is just using the plain  
15 and ordinary meaning of the terms, the same way --

16 MR. REESE: Yes.

17 JUDGE BISK: -- the patent we're looking at is? Okay.

18 MR. REESE: That's correct.

19 JUDGE BISK: Okay. Thank you.

20 MR. REESE: I note that GREX says it was not included in this  
21 proceeding, but they did not file a motion to exclude this evidence either.

22 JUDGE BISK: Right.

1 MR. REESE: Moving to slide 18, Bird (phonetic) teaches us that the  
2 FRA's initiatives following the derailments would not have provided  
3 motivation to automate the RSA because the final rule issued in 2011.  
4 Notwithstanding the date of the rules, one would have been motivated to  
5 make RSA detection of prior art, including automating RSA, as a solution  
6 and a -- (Telephonic interference.) -- question to derailments, which were  
7 caused in part due to RSA as well as the FRA's initiatives, past sources,  
8 committees, meetings, and rules, immediately following the derailments in  
9 2007 and 2008, making RSA detection -- (Telephonic interference.)

10 JUDGE BISK: Sorry to interrupt you again. I have one more  
11 question on this particular issue, which is one of the arguments in the Patent  
12 Owner's response and the reply or in the surreply is that at the time FRA  
13 made a statement basically stating that existing technology was good enough  
14 to meet their rules, and so, therefore, wouldn't be used as motivation to do  
15 this new invention, and I didn't see a response to that in your reply. So I  
16 was just wondering if you had anything to -- extra to say on that.

17 MR. REESE: Right. I think it's an issue of conflating whether --  
18 we're not relying on the FRA's past rules, future rules, for disclosure of the  
19 claimed elements. It's used for motivation to -- combined by further  
20 teachings, further motivation to combine. And when you have a really bad  
21 accident, based on RSA, that in and of itself would motivate someone to  
22 come up with a solution.

1           But that's not all. Then you have the FRA coming in, creating all of  
2           these task forces and committees, having the community try to figure out,  
3           well, how can we prevent this accident from happening again? What  
4           additional manual and automating methods can we come up with to help  
5           prevent this -- future accident from happening in the future.

6           So, again, it's all about the motivation --

7           JUDGE BISK: Right.

8           MR. REESE: -- to, you know, automate rail seat abrasion versus  
9           relying on the FRA's initiatives and rules for the disclosure of the claimed  
10          elements.

11          JUDGE BISK: Right. Okay.

12          MR. REESE: And, in fact, moving to slide 21, Choros itself arose  
13          from the aftermath of the derailment in the FRA's initiatives. Choros itself  
14          is concerned with finding a solution.

15          JUDGE BISK: So you don't agree that at the time of the initiatives  
16          and proposals, at the time of the derailment, there was already this  
17          technology existing to do what --

18          MR. REESE: Yeah. There was. Now, there was --

19          JUDGE BISK: Okay.

20          MR. REESE: Yeah. There was already automation that existed at  
21          the time of these accidents --

22          JUDGE BISK: But that would be --

1 MR. REESE: -- that helped identify rail seat abrasion.

2 JUDGE BISK: Okay.

3 MR. REESE: The FRA rule that we're trying to, you know, further  
4 develop those rules to mandate more specific requirements for the  
5 automation of rail seat abrasion.

6 JUDGE BISK: Okay.

7 MR. REESE: And, finally, on slide 22, GREX's position on this  
8 issue contradicts, again, testimony from a CEO regarding derailments in a  
9 subsequent industry push. So, again, not just GREX's, you know, push but  
10 the industry's push to automate rail seat detection.

11 So moving to slide 23, next GREX alleges that Villar expressly  
12 teaches a way from manual measurement and visual inspection, but that's  
13 incorrect. Villar does not discourage automating RSA. It encourages it.

14 As shown on slide 24, Villar appreciates the need to regularly inspect  
15 track components, including crossties, for deterioration. Villar itself  
16 recognizes that this manual inspection is time-consuming and concedes that  
17 automating manual inspection tasks, such as identifying crosstie defects, was  
18 well-known. As shown on slide 25, Villar does not teach away from RSA  
19 for the additional reason that Villar automates tie plate cut, which is very  
20 similar to rail seat abrasion.

21 As shown on slide 26, contrary to GREX's argument, one would not  
22 have sought the physical or bodily incorporation of Choros' visual and

1 manual inspection of crossties into Villar. In fact, as shown on slide 27,  
2 Choros provides additional motivation for the combination by appreciating  
3 the use of both manual and automated inspection methods.

4 In fact, it not only appreciates manual and automated methods, but  
5 looks -- has an eye toward the future, such that as methodologies improve  
6 for both manual and automation, the data can be improved as well.

7 So unless the Board has any additional questions regarding the Villar  
8 and Choros combination, I'd like to move next to the compensating image  
9 data for track tilt limitation of Claim 1, starting at slide 29.

10 As we state in the petition, it would have been obvious to have  
11 implemented Villar's or Choros' automated rail seat abrasion, railroad track  
12 inspection system to compensate for tilt of the track when determining  
13 whether RSA is present as evidenced by Casagrande, Szwilski, the  
14 testimony of Dr. Papanikolopoulos, and other record evidence.

15 Moving to slides 30 to 31, Casagrande discloses a mobile railroad  
16 track surveying apparatus. It uses image capturing technology to calculate  
17 various parameters of track geometry, including rail wear, horizontal and  
18 vertical alignment errors.

19 Casagrande's apparatus also automatically compensates in these  
20 imaged rail profile data for vertical alignment measurement errors due to the  
21 elastic deformation of the railway or tramway carriage.

1           As testified by Dr. Papanikolopoulos, it would have been obvious to  
2     have implemented if Villar and Choros' automated RSA track inspection  
3     system automatically compensated measurement of imaged track  
4     components for vertical tilt errors.

5           Szwilski provides another well-known example of the propounding  
6     from vertical tilt inclination errors to accurately represent railroad inspection  
7     position data when determining rail defects. As Szwilski's mobile railroad  
8     track surveying and monitoring apparatus travels along rails, it determines  
9     and collects imaged railroad component position data for vertical tilt errors.  
10    Szwilski's tilt corrections, quote, include, but are not limited to, determining  
11    rail displacement or other rail defects.

12          As specified by Dr. Papa, it would have been obvious to have  
13    implemented Villar or Choros' automated RSA system to account for tilt  
14    errors to accurately represent the individual or component position data  
15    when determining whether a well-known rail defect, such as RSA, is present  
16    on the railroad track.

17          Moving to slide 38, in response, GREX's individual attacks on each  
18    of Casagrande and Szwilski fail.

19          On slide 39, GREX first argues that Casagrande failed to mention  
20    RSA. The Petition relies on Casagrande's imaged rail defect tilt  
21    compensation teachings, not to determine whether RSA is present. Taking  
22    a step back, this combination is focused on Villar and Choros teach an

1 automated track inspection system that determines whether RSA is present  
2 along the railroad track. That's what we have discussed up to this point.

3 Casagrande and Szwilski teach when determining whether a defect is  
4 present compensating for a tilt on the railroad track. Szwilski further  
5 teaches that the tilt compensations can include, but are not limited to,  
6 determining rail displacement and other rail defects.

7 RSA is a well-known rail defect that Villar and Choros automated  
8 the detection of; or else it wouldn't have been obvious to implement  
9 Villar's system when determining whether RSA is present and can  
10 compensate for tilt of the railroad track. The claims require nothing more.

11 Moving to slide 40, GREX, second, contends that Casagrande does  
12 not compensate for rail tilt, but rather only the measurement errors caused by  
13 the oscillations or elastic deformations of the vehicle. But as Dr.  
14 Papanikolopoulos has testified, Casagrande's system automatically  
15 compensates imaged position data for errors coming out of both the railway  
16 and the tramway carriage. That's because --

17 JUDGE BISK: Can I --

18 MR. REESE: Yes.

19 JUDGE BISK: I'm sorry. This particular argument on both sides I  
20 was a little confused about, I have to say. First, I'm looking at slide 41.  
21 This is paragraph 36 of Casagrande. And you have part of it underlined in



1 red, compensation for the errors due to the elastic deformation of the  
2 railway, and then you kind of stopped there.

3 How Patent Owner seems to read this sentence is that the railway  
4 also modifies carriage, and to me that seems -- I thought that was a pretty  
5 reasonable reading of that sentence, especially in the context of Casagrande,  
6 which doesn't seem to talk anywhere else about deformation of the railway.

7 But, besides that, can you explain this argument about how  
8 Casagrande does or does not show tilt based on the -- I don't understand the  
9 difference in the positions I guess on the tilt of the carriage and how that is  
10 related to the deformation of the rails.

11 MR. REESE: Right. So I think -- yeah, I think we're definitely  
12 reading it a bit differently. I do note that in I think it's paragraph 2 of  
13 Casagrande it does refer to the deformation of the railway that occurs with  
14 repeated --

15 JUDGE BISK: Okay.

16 MR. REESE: -- application of pressure. But just taking a step  
17 back, I think Dr. Papanikolopoulos' testimony is focusing on the aspect that  
18 when you do have a tilt in the track, that's going to result in a tilt of the  
19 carriage. And, because Casagrande's measurement units are on the  
20 carriage, they will, thus, also tilt, providing a vertical deviation which would  
21 be equal to what you're seeing being off on the track tilt.

1 JUDGE BISK: Which makes sense to me, but for some reason when  
2 Patent Owner responded to your argument on this, they said something like  
3 your argument depends on only one side of the carriage tilting, but I'm not  
4 sure what that was all about.

5 MR. REESE: Yeah. We don't understand that position either,  
6 because if that was the case, it's unclear how Casagrande's measurement  
7 units would operate in the first place.

8 JUDGE BISK: Right.

9 MR. REESE: Casagrande is -- you know, the whole point of the  
10 measurement units is to detect this deformation, vertical tilt, so if every time  
11 there was a vertical tilt the entire carriage was tilting such that the  
12 measurement units were in parallel, we don't see the purpose of having all of  
13 the extra weight and units and technology on the carriage in the first place.

14 JUDGE BISK: Okay. So I think your argument is even if this  
15 sentence in paragraph 26 can't be read the way you have it underlined,  
16 Casagrande still shows tilt of the railway.

17 MR. REESE: Correct.

18 JUDGE BISK: Okay.

19 MR. REESE: By tilt of the carriage as a result of --

20 JUDGE BISK: Right.

21 MR. REESE: -- tilt of the tail. And I'll note that the '320 patent  
22 also recognizes this relationship, column 12 lines 61 to 63, quote, As

1 inspection system 30 moves along the track, it may encounter curves or  
2 bends in the track, which will result in the suspension lean of the system 30  
3 as it moves through the curve. I mean, this is why all of this matters, right?  
4 Because we're talking about these inspection systems that have hammers and  
5 lasers. And if those are tilted or offset, you need to account for that in your  
6 image data, or otherwise your image data is going to be erroneous.

7 JUDGE BISK: Okay. Thank you.

8 MR. REESE: And finally on this issue, on slide 44, notwithstanding  
9 Casagrande's teachings. I just want to point out that Szwilski -- there is no  
10 dispute that Szwilski -- you know, Szwilski discloses determining a rail --  
11 you know, a rail tilt.

12 I think we talked about GREX's third argument about it being  
13 incapable. I'm going to go next to GREX's individual attacks on Szwilski  
14 on slide 47. But first, GREX alleges that Szwilski does not disclose a step  
15 performed by at least one processor. And similar to GREX's argument  
16 with respect to Villar or Choros, this is wrong because the petition isn't  
17 relying on Szwilski's for the processor. It is relying on Villar.

18 Moving to slide 48, second, GREX alleges that Szwilski's  
19 measurements are unrelated to the position of the rail seats. But with  
20 respect to Casagrande, the petition is not relying on Szwilski to determine  
21 RSA, but instead for its imaged rail defect tilt compensation teachings.

1 Nor does the petition rely upon or propose honoring, incorporating  
2 Szwilski's specific systems and processes into Villar to determine RSA.  
3 Villa and Choros are already automating RSA. Casagrande and Szwilski  
4 are brought in to show the compensation of rail defects.

5 Moving to slide 49, GREX alleges that Szwilski's system is far too  
6 inaccurate. But, again, the petition is not relying on Szwilski to determine  
7 RSA. It is relying on it for the imaged rail defect tilt compensation's  
8 teachings.

9 And, finally, GREX alleges that neither Casagrande nor Szwilski  
10 disclose or suggests any capability for making measurements relating to the  
11 rail seats. And thus both are incapable of compensating for a real tilt in  
12 making that determination.

13 But, again, it's kind of a common theme that we're seeing in GREX's  
14 attacks on these references, is that the petition is relying upon Casagrande  
15 and Szwilski's teachings of compensating imaged rail defect measurements  
16 for vertical tilt, not the RSA determination. After all it is the teachings of the  
17 combination that render inobvious Claim 1(f).

18 So unless the Board has any further questions regarding Ground 1,  
19 I'd like to turn next to Ground 2, Claim 3, starting at slides 54 to 55,  
20 although I see my time has just ended. So I will end there, unless the  
21 Board has anything else for me at this moment.

1 JUDGE BISK: I actually have a question about Claim 4. And it  
2 seems like the parties are arguing about the claim construction of this term,  
3 standard tilt correction-- what is it? Standard tilt correction -- the standard  
4 tilt correction factor in Claim 4, and whether it's required to be a fixed  
5 number or not, and whether it's required to be fixed for the entire curve.

6 And I'm just wondering what your take is on in the specification, if  
7 you look at, let's see -- sorry -- here. I'm taking up all your time, but I'll  
8 give you a few extra minutes.

9 MR. REESE: No. I'm glad to talk about it.

10 JUDGE BISK: Okay. So let's go to the specification, column 13,  
11 and this is lines 11 through 13. And it talks about during -- research for  
12 this invention, the standard tilt correction factor of .12, was determined --  
13 this tilt correction factor is incorporated in the algorithms of the present  
14 invention. Is this not a definition of the term standard tilt correction factor  
15 to be .12?

16 MR. REESE: No. It is our position that this is not a condition or  
17 disclaimer requiring that each use of the term standard tilt correction must be  
18 .12 in the claims.

19 JUDGE BISK: Okay.

20 MR. REESE: They have dropped -- they could have drafted the  
21 claim to say the standard tilt correction is .12. They could have drafted the  
22 claim to say its standard tilt correction is based on a variation in vehicle

1 suspension. They could have drafted the claim to say the standard tilt  
2 correction is based on rail height placement standards.

3 They could have said the standard tilt correction is the same  
4 throughout the entire track, but they didn't. They then proceeded to -- and  
5 there was nothing in the plain language of the claims as far as definition or  
6 disclaimer or lexicography in the specification or the file history mandating  
7 that into the claim.

8 Furthermore, I will note that, you know, even if it was the only  
9 embodiment, the history of the case law is clear that without definition or  
10 disclaimer, you still don't import the main embodiment from the  
11 specification in each of the claims without anything more.

12 JUDGE BISK: So you're saying that this is just one embodiment,  
13 even though it says it's incorporated into the algorithms of the present  
14 invention?

15 MR. REESE: Yeah. I mean, the present invention comes with a lot.  
16 It's like boilerplate language, I mean, all embodiments of the present  
17 invention. What matters is the claims. And they could have in the  
18 specification said, When we refer to a standard tilt correction in claims, we  
19 mean it to mean this.

20 JUDGE BISK: Okay.

21 MR. REESE: Or the claims they would have said what this tilt  
22 correction means instead of just leaving it broad and saying standard tilt

1 correction. Standard is broad. There is no definition of standard in the  
2 spec.

3 JUDGE BISK: Okay. That was -- that's all of my questions. We  
4 went -- I made you go two minutes over, so I'll just restore those two  
5 minutes.

6 MR. REESE: Thank you.

7 JUDGE BISK: And then we will move on to Patent Owner for now.

8 MR. REESE: Thank you very much.

9 JUDGE BISK: Thank you.

10 Patent Owner, did you want to save any of your time for rebuttal?  
11 Uh-oh, do we have Patent Owner on the line?

12 MR. REESE: I think it's muted.

13 MR. SPEIRS: I just unmuted.

14 JUDGE BISK: Okay. Great.

15 MR. SPEIRS: I'd like to save three minutes.

16 JUDGE BISK: Save three minutes. Okay. Will do. Whenever  
17 you're ready.

18 MR. SPEIRS: Okay. This is Kevin Speirs for the Patent Owner.  
19 Also on the line is Rex Johnson, lead counsel, but I will be arguing today.

20 I will focus on Ground 1, because Grounds 2 and 3 are derivative.  
21 The Petitioner has to prevail on Ground 1 to prevail on those two grounds.

1 And like the Petitioner, I will focus on Claim 1, Elements E and F for  
2 Ground 1.

3 In general, the Petitioner fails to prove that the prior art discloses or  
4 suggests those two elements or that a person of ordinary skill would have  
5 motivated to combine the prior art in order to achieve either one of those  
6 Elements, E or F.

7 Starting with Element E, Petitioner fails to prove that this element  
8 would have been obvious based on Villar and Choros combined. There is a  
9 lack of proof that a person of ordinary skill would have been motivated to  
10 combine those two references. The petition contains two arguments in that  
11 regard. The first is based on the content of Choros itself, and the second is  
12 based on the Federal Railroad Administration's response to a couple of  
13 derailments.

14 In regard to the first argument, Petitioner's arguments rely on  
15 incorrect characterizations of the content of Choros and rely first on the  
16 contention that Choros discloses both manual and automatic inspection  
17 methods, and the supposed automatic method that they talk about is  
18 collecting data on geometry cars as an alternative to manually identifying  
19 rail seat abrasion locations.

20 However, there is no such disclosure. Choros states that visual  
21 inspection must be used with automatic inspection to determine and measure  
22 rail seat abrasion. Specifically, Choros says that geometry cars can only



1 identify potential rail seat abrasion locations, and that to determine and  
2 measure rail seat abrasions an inspector must visit those locations and  
3 physically measure rail seat abrasion.

4 JUDGE BISK: Can you point to where in Choros it says that?

5 MR. SPEIRS: Sure. On page 11, and it's in the left column near the  
6 bottom. And it is I think the third sentence it says, Data collected on  
7 geometry cars is considered as an alternative method for identifying critical  
8 locations. However, for these measurements to be reliable, the required  
9 frequency of inspections may be too high based on the availability of  
10 existing geometry cars. A simpler method is being considered for field  
11 forces by the FRA or railroad inspectors to evaluate a site once it is detected  
12 by a geometry car or during a visual inspection by an inspector. One such  
13 method is to use an abrasion measurement gauge to measure the point of  
14 train derail and the tie.

15 JUDGE BISK: So where does it say that those measurements have to  
16 be made by visual inspection?

17 MR. SPEIRS: It just says that -- that all -- well, it says that the data  
18 collected by the geometry cars only identifies the locations, but it doesn't say  
19 that it measures or determines if rail seat abrasion is present or to what  
20 degree.

21 JUDGE BISK: Okay.

1 MR. SPEIRS: And, actually, based on the content of Choros, as I  
2 just mentioned, the whole point of Choros is that as far as your obvious  
3 visual and manual measurement by use of this tool called the abrasion  
4 measurement gauge, and also, similar to what Choros said, there is other  
5 evidence submitted by the Patent Owner on geometry cars that likewise  
6 indicates or shows that geometry cars can only indicate the possible or  
7 potential track locations where rail seat abrasion might be present, and that  
8 subsequent manual and visual inspection is necessary.

9 So the Petitioner's argument of motivation to create Element E based  
10 on the content of Choros fails.

11 The second part of this argument is based on the FRA or the Federal  
12 Rail Administration's various documents. In that regard, the Petitioner  
13 argues that it would have been obvious to implemate -- implement, excuse  
14 me -- automated RSA determination in response to the FRA's initiative to  
15 automate RSA detection following two high-profile derailments in 2005 and  
16 2006.

17 The Petitioner points to a number of different documents from the  
18 FRA in that regard, but none of them provide the necessary support. First  
19 and final rules can't provide that support because they came out a couple of  
20 years after the critical date.

21 Next, FRA's proposed rules also could not have provided that  
22 motivation. They say that automated inspection technology shall be used

1 as a supplement to visual inspection, and that each potential issue must be  
2 located and field verified; in other words, by manual inspection.

3 Another reason why these rules provide motivation for change, as  
4 Your Honor pointed out during the Petitioner's argument, is that the FRA  
5 expressly recognized that existing automated and manual technologies were  
6 sufficient to satisfy the proposed rules. Because of that there was no  
7 motivation to create any change in the existing technologies, based on those  
8 rules.

9 Third, and last, the evidence related to --

10 JUDGE BISK: But what about the -- what about the derailments?  
11 Wouldn't that motivate --

12 MR. SPEIRS: Well, because of the derailments --

13 JUDGE BISK: -- someone to come up with a best answer, not just  
14 one that --

15 MR. SPEIRS: No. I think that all -- at most, it supports a better  
16 effort to detect and continuously go out and check to see if there is rail seat  
17 abrasion, not the development of any particular method for doing so, and  
18 especially not a solely automatic or automated method.

19 And, in fact, the committee's objective was just generally developing  
20 manual and automated methods to detect rail seat failure, and the objective's  
21 wording, as well as the content of the rules that came out of it, and the fact  
22 that they acknowledge that the existing technology was sufficient to detect

1 and identify rail seat abrasion shows that there was no motivation to come  
2 up with anything new. And so no motivation is there to obtain Element E  
3 based on the FRA's activity.

4 JUDGE BISK: Well, taking that same argument on your  
5 demonstrative slide 15 that says the committee's objective was developing  
6 manual and automated methods, why wouldn't development of automated  
7 methods in that statement right there provide motivation in and of itself?

8 MR. SPEIRS: Well, as I say, that was the initial statement by the  
9 committee. But then when they ended up submitting their proposed rules  
10 and final rules, those rules identified using both automated and manual  
11 methods together, and they identified the fact that those rules were satisfied  
12 by existing methods.

13 So the effect of financial -- (Telephonic interference.) -- into what  
14 came later and showed that there was no motivation to create anything new  
15 based on the FRA's activities.

16 Then, the third argument that was raised in the reply for the first time  
17 is based on the testimony of Patent Owner's employees. That doesn't  
18 provide motivation to attain Element E either. As we have talked about a  
19 little bit today, the testimony isn't applicable because it was taken from other  
20 IPRs involving different patents and claim language, and there is no way and  
21 no context for showing what might be the same or similar between the  
22 requirements in the two respective patents in each IPR.

1           Also, rather than supporting the Petitioner's argument that Villar's  
2           method involves the same or similar analysis that's used for measuring rail  
3           seat abrasion, in context, the testimony is that nearly all of the loading from  
4           the train causes wear, which is transferred to tie plate when you have  
5           wooden ties or to rail seats if you have concrete ties. And so the distinct  
6           measurements take on the same or similar importance.

7           Notably, Mr. Grissom in the testimony testified that the algorithms  
8           for rail seat -- (Telephonic interference.) -- are separate. They are not  
9           identical, and the steps are not the same. But the Petitioner has failed to  
10          satisfy its burden in proving the unpatentability of Element E. Even so,  
11          there is evidence from Dr. Bovik, our expert, in his declaration showing that  
12          a person of ordinary skill would not have combined Choros and Villar. As  
13          he explained, there is a large gap between a simple manual method like  
14          Choros, and a machine vision system like Villar, machine --

15          JUDGE BISK: Is there any evidence in the record supporting that  
16          statement?

17          MR. SPEIRS: From his -- it comes from him and his background in -  
18          -

19          JUDGE BISK: Right.

20          MR. SPEIRS: -- machine vision technology.

21          JUDGE BISK: But he doesn't -- he doesn't cite to any other  
22          evidence. And what about the evidence to the contrary that the Petitioner

1 relies on, they have Exhibits 1026 and 1035 through '38. I don't think your  
2 expert or your briefing response discusses those.

3 MR. SPEIRS: They don't discuss them specifically. The problem  
4 with those exhibits is they just -- they don't talk about anything specific.  
5 They just talk about machine vision technology generally and say that things  
6 are being automated, and of course, you know, once things start being  
7 automated, that doesn't mean that it's obvious to automate everything that  
8 you could do manually. And that's Dr. Bovik's point.

9 So those disclosures --

10 JUDGE BISK: I think his point was that it's -- it's incredibly hard to  
11 do that. But I don't know that we have any evidence --

12 MR. SPEIRS: Yes.

13 JUDGE BISK: -- of that, right?

14 MR. SPEIRS: For any specific task, yeah.

15 JUDGE BISK: Yeah.

16 MR. SPEIRS: If you have a general disclosure about using machine  
17 vision, that just doesn't help in terms of trying to accomplish a specific task  
18 in machine vision, unless, as you've said, because a -- in such an instance the  
19 person of ordinary skill needs to create a model, create code for the model,  
20 and then experiment and test the resulting code and system to be certain that  
21 they work properly.

1           And here the disclosure that you have in Choros is nothing like that  
2           and provides no basis for creating, let's say, feature. As the Petitioner's  
3           attempt to rebut Dr. Bovik's opinion in that regard fails, and it's -- what we  
4           just talked about, is the fact that all of the prior art they cling to is just  
5           general automation of machine -- or, excuse me, automating certain tasks  
6           where generally that machine vision was used in the past. And so it doesn't  
7           have anything significant to do with claim features here.

8           As Dr. Bovik also talked about, a person of ordinary skill would not  
9           have combined Villar and Choros because Villar teaches away from Choros.  
10          Villar's purpose is avoiding and overcoming the problems involved with  
11          manual and visual inspection. And as they talk about, the whole point of  
12          Choros is promoting the use of its manual inspection abrasion tool, and so  
13          that Villar teaches away from that and that's why -- (Telephonic  
14          interference.) -- to modify Villar.

15          The Petitioner's attempt to rebut Dr. Bovik's opinion also fails.  
16          They rely primarily on Villar's statement that its methods are not intended to  
17          be limited to the measurable aspects and particular techniques described  
18          within that patent. But Villar's general statement that it is not limited is just  
19          boilerplate language. So it can enlarge Villar beyond what the  
20          specification described, and, in particular, it can't -- it can't just use the  
21          application that it's not disclosed in Villar like that in Element E.

1           So, in summary, Petitioner fails to prove a motivation to combine  
2   Villar and Choros for the same Element E, and Element E is patentable, and  
3   Ground 1 fails for that reason.

4           Next I am going to move on to Element F. The Petitioner also fails  
5   to prove Ground 1 because it fails to prove that Element F is obvious based  
6   on Villar and Choros, Casagrande, and/or Szwilski. There is three separate  
7   combinations they refer to. In fact, the Petitioner is arguing that  
8   Casagrande and/or Szwilski, individually or combined, are sufficient to  
9   supply the content of Element F.

10          Going to the first combination, the one that involves Casagrande, the  
11   problem with Casagrande is it discloses a system for making certain specific  
12   rail-related measurements but not determining rail seat abrasion.

13          In fact, it's incapable of determining rail seat abrasion because it only  
14   measures points on and obtains the profile of the two rails, not any other  
15   components. Because it does not measure points on a crosstie, it can't  
16   determine or measure the height between the rail seat bottoms and the  
17   unabraded crosstie surfaces. And, thus, it can't determine or measure rail  
18   seat abrasion.

19          Casagrande also does not compensate --

20          JUDGE BISK: Can I interrupt you and ask about the definition for  
21   rail seat abrasion?

22          MR. SPEIRS: Sure.



1 JUDGE BISK: So you have -- you say plain and ordinary meaning to  
2 all terms, but then later in your response -- I think it's on page 27 -- you  
3 seem to have a definition for rail seat abrasion there, and I'm wondering if --  
4 it's at the bottom of 27, Rail seat abrasion is a measure of the vertical  
5 distance or depth of abrasion into the top surface of a crosstie. Is this the  
6 plain and ordinary meaning of rail seat abrasion, or is this specific to --

7 MR. SPEIRS: Yes. I would add that it -- you also have to include  
8 the depth difference between the top -- so it's the crosstie and the bottom of  
9 the rail.

10 JUDGE BISK: Okay. But this is just a general definition. It  
11 doesn't rely on the particular materials used in the railway or the crossties?

12 MR. SPEIRS: No.

13 JUDGE BISK: Okay.

14 JUDGE KALAN: I had -- go ahead.

15 JUDGE BISK: I was just going to ask, do you -- right underneath  
16 that you talk about the minimum depth required by the Federal Railroad  
17 Administration's rules and those in Choros. Are you saying -- are you  
18 saying that the definition of rail seat abrasion has this minimum depth  
19 number to it for the claims?

20 MR. SPEIRS: No. There is no -- there is no specific depth  
21 limitation. It's just measuring the rails.

22 JUDGE BISK: Okay. Thank you.

1 JUDGE KALAN: I had a question regarding claim construction  
2 generally with this discussion of RSA and then the additional discussion  
3 about the standard tilt correction factor. Are you satisfied standing on  
4 whatever you have argued in your briefing as far as our review of these  
5 claim terms? Or do you feel like you might need additional claim  
6 construction briefing or some other clarification?

7 MR. SPEIRS: No. I think what we have in the briefing is  
8 sufficient.

9 JUDGE KALAN: Thank you.

10 MR. SPEIRS: Okay. Casagrande's system is also incapable of  
11 determining if -- excuse me. Casagrande also does not compensate for the  
12 tilt of the railroad track as the Element F requires. As we talked about, it  
13 uses three measurement units on a vehicle to capture rail profile images, and  
14 that is shown on slide 35 where there are three measurement units mounted  
15 on the rear side of the vehicle with the laser bar shining in between them.  
16 Sensors are not aligned. Software is the result of signal to -- (Telephonic  
17 interference.) -- errors.

18 But that embodiment will not -- (Telephonic interference.) -- track  
19 tilt and can't compensate for -- (Telephonic interference.)

20 JUDGE BISK: I don't really understand your argument about -- here  
21 about why -- why does this not measure tilt of the rails?

1 MR. SPEIRS: There is no disclosure that measures tilt, and the fact  
2 is that because this line is only aligned with the rails, if the track tilts, the  
3 vehicle is riding on the rails, so the vehicle is going to tilt. And since they  
4 are mounted to the vehicle, they are going to tilt with the vehicle.

5 JUDGE BISK: But then how does -- how does this then actually  
6 measure the deformity that it says that it's measuring?

7 MR. SPEIRS: Well, it doesn't describe any of that process. There is  
8 no way of being able to determine if the misalignment caused by the  
9 measurement of those factors would also translate to a misalignment -- a  
10 potential misalignment of the -- (Telephonic interference.) -- itself. Just  
11 looking at it --

12 JUDGE BISK: So then how do we know that the tilt -- Petitioner  
13 says that if the carriage tilts, that it can also -- it can -- that will be measured.  
14 Why is that not the case?

15 MR. SPEIRS: Well, because when the carriage -- because the  
16 measurement units are mounted to the carriage, so if the carriage --

17 JUDGE BISK: Right.

18 MR. SPEIRS: -- they tilt with the carriage, and they all tilt with the  
19 carriage in the same way, but there is no -- there is no way for them to --  
20 (Telephonic interference.) -- as a result of that tilt. And I would also note  
21 here that this topic is addressed only by Dr. Bovik in his declaration and not  
22 at all by Dr. Papanikolopoulos -- (Telephonic interference.) -- expert.

1 JUDGE BISK: Now, but if we -- does this matter? Because we  
2 also have -- I don't know how to say it-- Szwilski -- that measures tilt.

3 MR. SPEIRS: Now, Szwilski -- Szwilski is a little bit different.  
4 This is the second combination. So Szwilski can only correct vertical and  
5 horizontal errors for measuring rail displacement.

6 And the problem with Szwilski, as Dr. Bovik explained, is its  
7 measurements are unrelated to the position of the rail seat, and thus they  
8 can't be used to -- (Telephonic interference.) -- Szwilski's mobile platform  
9 rides on top of the rails, as all vehicles do, and it has GPS measurements that  
10 are based on the position of that vehicle.

11 And the position of the vehicle is based on the rail --where the rail  
12 tops are, not the rail bottom. But because the rail tops degrade and change  
13 position in the same manner from the rail seats, you can't use that tilt  
14 measurement to determine the tilt correction that applies to the rail seats.  
15 That's the problem with -- the first problem with the tilt.

16 The second problem with the tilt is --

17 JUDGE BISK: Well, why -- where does it say that the tilt has to be  
18 measured by the rail seat?

19 MR. SPEIRS: Well, as we look at -- first of all, it comes from Dr.  
20 Bovik's declaration, but if you look at Villar, I believe specifically at --

21 JUDGE BISK: Well, I'm talking about in -- I'm talking about in your  
22 patent.

1 MR. SPEIRS: Yeah. So in -- there's two Villars we've got. So in  
2 the patent at issue, the '320 patent, figure 17, you have age of the rail, and  
3 the age of the tie, on each side. And the one for the rail refers to the rail  
4 bottoms, and the age of the tie and the height of the tie are at the top of the  
5 crosstie. So it's not measuring from the rail tops. It's measuring from the  
6 rail seat.

7 JUDGE BISK: Is this -- but is that a definition of measuring the tilt,  
8 or is that just this embodiment?

9 MR. SPEIRS: They don't talk about it as being merely an  
10 embodiment, so that's how you're measuring-- you're measuring tilt  
11 correction based on or getting a tilt correction based on the-- where the rail  
12 is, what the rail-- the base height of each of the rails, as well as on each tie.

13 JUDGE BISK: So you're saying--

14 MR. SPEIRS: There is no other-- there is no other disclosure, so  
15 there is no other basis to--

16 JUDGE BISK: So you're saying that --

17 MR. SPEIRS: -- create any kind of measurement.

18 JUDGE BISK: You're saying that the claim has to be construed such  
19 that you are measuring tilt from the rail base?

20 MR. SPEIRS: Yes. It would have to be. There is no other  
21 disclosure for that.

1           The other problem with Szwilski is that the accuracy is terrible. Its  
2           average is .78 -- excuse me, .87 inches vertical, which is far higher than  
3           the maximum that the FRA allows, and of course much larger than all of  
4           those discussed in Choros. And its coordinates are generated every 14.6  
5           feet, which covers -- (Telephonic interference.) -- but it couldn't be applied  
6           to determine rail seat abrasion of each rail seat.

7           JUDGE BISK: But where in your patent is there a requirement of  
8           how often that it's -- the rail seat abrasion is measured?

9           MR. SPEIRS: Well, if you're going to reference an abrasion of a rail  
10          seat, you have to be -- you have to know which rail seat you are measuring  
11          and the tilt on that particular rail seat. And what you have in Szwilski does  
12          not allow you to identify any particular rail seat, so you can't -- it gives you a  
13          tilt, but it doesn't -- a tilt, well, of the rail tops, really, but to the extent it  
14          even gives you a tilt, it is not applicable to any particular rail feet, but there  
15          is no value whatsoever.

16          JUDGE BISK: I think you are about at your time. Do you want to  
17          talk about the standard tilt correction factor for a minute?

18          MR. SPEIRS: Okay. Sure. The point on standard tilt correction  
19          factor primarily is that based on the claim language and what the  
20          specification, it stems from a tilt correction factor. And because the only  
21          disclosure in the patent is that it is something separate, it is applied on  
22          something that is unrelated to rail seat abrasion -- that is the only way to

1 interpret the scope of that term from the claims. And the fact that it refers  
2 to it as a standard is a -- (Telephonic interference.) -- and the fact that the  
3 only -- (Telephonic interference.) -- of it involves a fixed number, but  
4 merely information that standard tilt correction is a fixed factor by all  
5 sections of the railway.

6 And it's important to note on that, that there is no contrary intrinsic  
7 evidence cited by the Petitioner. Since that is the only disclosure in the  
8 patent -- (Telephonic interference.) -- by the grounds -- (Telephonic  
9 interference.) -- the way that we have set forth.

10 And are there any questions? If not, then I'll -- (Telephonic  
11 interference.)

12 JUDGE BISK: Okay. Petitioner, you have five minutes.

13 MR. REESE: Thank you, Your Honor. I'd just like to touch on a  
14 few of the points raised by Patent Owner's counsel. First, going back to  
15 Choros, so Choros provides additional motivation for the combination with  
16 Villar, because Choros did shape the use of both manual and automated  
17 methods. It certainly doesn't teach away from automation.

18 And, at bottom, the Petitioner relies on Villar and Villar's automated  
19 machine vision inspection system for disclosures of the automation.

20 Second, talking about the FRA, one would have been motivated to  
21 combine the reference in this. But, additional -- (Telephonic interference.)  
22 -- too because of the derailments, it doesn't -- (Telephonic interference.) --

1 following the derailment was -- (Telephonic interference.) -- to improve the  
2 automated detection methods for the purpose of preventing future accidents.  
3 That is confirmed with GREX's CEO when they talk about the industry push  
4 for automating RSA after these derailments.

5 And, notably, Patent Owner does not dispute that system.

6 JUDGE BISK: Can you talk about the Szwilski and whether tilt has  
7 to be measured from the rail base in order to be used for RSA?

8 MR. REESE: It absolutely does not. I have this bar in my notes  
9 here. There is no requirement in the claims that the tilt be measured from  
10 the rail base. No requirement for --

11 (Simultaneous speaking.) JUDGE BISK: What about the--

12 MR. REESE: -- compensating -- what the claim said about  
13 compensating. They don't talk about how to determine if it's compensating  
14 for tilt.

15 JUDGE BISK: What about figure 17, which shows the tilt and it  
16 shows a measurement being made of the rail base?

17 MR. REESE: There is a couple of measurements being made there --  
18 crosstie, the rail base, spec comparison. I'll note that the patent also  
19 contemplates that you can achieve certain measurements through other  
20 means.

21 JUDGE BISK: Okay. And --



1 MR. REESE: Or even if -- even if that was the single example in the  
2 specification, there is no definition or requirement to import that into the  
3 claims.

4 JUDGE BISK: Okay. Thank you.

5 JUDGE KALAN: I have a question about the -- excuse me. I have  
6 a question about the evidence you presented on slide 17 of your  
7 demonstratives, the Grissom and the Kainer deposition testimony. Do you  
8 have any other evidence that rail seat abrasion is similar to plate cut and that  
9 there is applicability of concrete tie measurements to wooden tie  
10 measurements, and vice versa?

11 MR. REESE: I'm trying to think. Well, I know that GREX is  
12 disputing Grissom's testimony, Exhibit 1043. Notably, they have not  
13 disputed Kainer's deposition testimony, Exhibit 1044. And so that-- I just  
14 wanted to note that. That's not in any briefing. They have not disputed it.  
15 They didn't talk about it today. So, obviously, that's additional defense as  
16 to those measurements being similar.

17 JUDGE KALAN: But nothing in any of the references or any of your  
18 own testimony from this proceeding?

19 MR. REESE: I have to think back to the presentation. I know that  
20 the Petition had a section on rail seat abrasion, which essentially is  
21 discussing the cut into the crosstie by the rail base. This is just cutting of  
22 the tie plate into the crosstie.

1 JUDGE BISK: I just wanted to point out that in the-- this is the  
2 surreply I'm looking at. Patent Owner does say that both 1043 and 1044  
3 are inapplicable because they involve different patents. So I think they are  
4 disputing those.

5 MR. REESE: Yeah, but I meant the -- I was speaking in relevance to  
6 this proceeding, but I think they took it a step further in talking about that  
7 they were similar type of analysis, and that Grissom's testimony wasn't  
8 necessarily related to the measurement of --

9 JUDGE KALAN: Okay.

10 (Simultaneous speaking.)

11 MR. REESE: -- yeah.

12 JUDGE KALAN: Okay. Thank you.

13 MR. REESE: And I think --

14 JUDGE KALAN: Thanks. And one quick follow-up question  
15 about claim construction. Do you think you need any additional claim  
16 construction of any of these terms -- rail seat abrasion or standard tilt  
17 correction factor? Are you happy to stand on your briefs?

18 MR. REESE: Well, I think each of those terms should be afforded  
19 their plain and ordinary meanings, nothing in the plain language of the  
20 claims or required in the specification, or else intrinsic factor, that requires  
21 the importation of certain features that GREX is advocating for in the  
22 claims.

1 JUDGE KALAN: Thank you.

2 JUDGE BISK: Okay. I think your time is up. Unless the Judges  
3 have any other questions, I'm going to move over to Patent Owner. Okay.  
4 Patent Owner?

5 MR. SPEIRS: Thank you. Yeah. Just one quick thing on the  
6 measurement of the -- (Telephonic interference.) -- in addition to what I  
7 referred to, based on the -- (Telephonic interference.) -- another thing of  
8 value is Claim 2 where it talks about determining tilt correction factor based  
9 on a determination of the height of the rail base, right rail base, left crosstie,  
10 and right crosstie. I think that's additional evidence to show that it is the  
11 rail base that goes into the calculation of the tilt, not the rail ties.

12 And that's all I have, unless the panel has any questions.

13 JUDGE KALAN: None. Thank you.

14 JUDGE BISK: No. Okay. Thank you. We're adjourned. And  
15 if the parties would -- the counsel would stay on the line for just a minute to  
16 make sure that the court reporter has all the information they need for the  
17 transcript, I would appreciate.

18 Thank you.

19 (Whereupon, the above-entitled matter went off the record at 2:00  
20 p.m.)

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Patent 8,081,320 B2

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