DCA-12-MR-009

CSX Transportation Freight Train Derailment with Non-railroad Fatalities

Ellicott City, MD

August 21, 2012

Interview of CSX Division Engineer on October 4, 2012

43 pages, including cover

UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

Investigation of:	*	
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CSX TRAIN DERAILMENT	*	
AUGUST 20, 2012	*	Docket No.: DCA-12-MR-009
ELLICOTT CITY, MARYLAND	*	
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Interview of: RANDY DANIELS
Division Engineer, CSX Transportation

Ellicott City, Maryland

Thursday,
October 4, 2012

The above-captioned matter convened, pursuant to notice.

BEFORE: JAMES SOUTHWORTH
Investigator-in-Charge

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I N T E R V I E W

MR. SOUTHWORTH: Okay. Once again my name is James Southworth. I am the Investigator-in-Charge for the NTSB for this accident. We are here today on October the 4th, 2012 to conduct an interview with Mr. Randy Daniels, Division Engineer, who works for CSX Transportation. This interview is in conjunction with the NTSB's investigation of a train derailment with non-railroad fatalities on CSX's Old Main Line Subdivision in Ellicott City, Maryland on August the 20th, 2012. The NTSB accident reference number is DCA-12-MR-009.

Before we begin our interviews and questions, let's again go around the table and introduce ourselves. Please spell your last name and please identify who you are representing and your title. I'll remind everybody to speak clearly so we can get an accurate recording. I'll lead off and then pass off to my right.

Again, my name is James Southworth. The spelling of my last name is S-O-U-T-H-W-O-R-T-H. I'm the Investigator-in-Charge for the NTSB on this accident.

Richard?

MR. HIPSKIND: My name is Richard Hipskind, and I work of the National Transportation Safety Board, and I am the Track Group Chairman assigned to this accident.

MR. CROWTHER: My name is Frank Crowther. I work for the FRA, Federal Railroad Administration, assigned to Region 2 as

a Track Safety Inspector, headquartered in Baltimore, Maryland. Spelling of my last name is C-R-O-W-T-H-E-R.

MR. ROSE: My name is Bruce Rose. That's R-O-S-E. I am the Director of Train Accident Prevention and Investigation for CSX Transportation, and I am here as an observer.

MR. INCLIMA: My name is Rick Inclima, I-N-C-L-I-M-A. I'm Director of Safety for the Brotherhood of Maintenance of Way Employes Division.

MR. DANIELS: Randy Daniels, Division Engineer, Baltimore Division, CSX. D-A-N-I-E-L-S.

MR. SOUTHWORTH: Okay. Thank you, everyone.

Mr. Daniels, do we have your permission to record our discussion and our interview with you today?

MR. DANIELS: Yes, you do.

MR. SOUTHWORTH: And do you wish to have a representative with you at this interview?

MR. DANIELS: No, I do not.

MR. SOUTHWORTH: All right. I'm going to proceed by having Mr. Hipskind begin the discussion today.

INTERVIEW OF RANDY DANIELS

BY MR. HIPSKIND:

Q. Randy, thank you again for being here today for a follow-up interview, and a special thanks for providing us some equipment and some time and personnel to conduct some hi-rail trips over the past couple of days, specifically on the Old Main

Line. That was very helpful.

What we want to do today is to kind of follow up on some of the things that came to our attention and to maybe kind of fill in some gaps on the previous interview.

A. All right.

Q. Are you okay with all that?

A. Yes, sir.

Q. Okay. The first, I think, I want to make a request for some data, and specifically service rail failures. We've had a couple of numbers thrown at us, but I would like to reach out to either the division personnel or to corporate personnel and provide us with the best numbers, the accurate numbers that you can come up with for the calendar year of 2012, and let's make it on the date prior to the accident back to the beginning of the year. I think we'd also like to see from that same starting date, we'd like to see a full calendar year, 12 months, and then the full calendar years for 2011, 2010, 2009 and 2008.

And what would be helpful for us is to provide the service rail failure numbers for the Old Main Line Sub, as well as the Baltimore Division as a whole. And if there's any complications in arriving at any of those numbers or compiling that data, please give me a call and we'll figure out what to do next.

A couple of things, and you've been here for the previous couple of interviews, I want to talk in some broad and

both specific terms about risk management, risk analysis on the division and how is all that put together. I realize that you may not use those kinds of terms in your everyday conversation and communication with some of your managers and direct reports, but kind of give me how all this works from your perspective as a division engineer.

A. And you can call it whatever you want, but it's all about safety and train accident safety, and it starts at the lowest or the -- actually what would be the first level, which would be the track inspectors doing their job every day, putting eyes on the ground, hands -- you know, feet on the ground, seeing what's going on, and reporting the information properly into ITIS, and then having good communication with their managers, which would be the roadmasters, about what's going on in the territory.

And then continuing up through that, the roadmasters doing their job, gathering data, feeding that up to the engineer of track, feeding that up to me, so that we can get good field observations of what's going on in real time on the territories.

That is also then supplemented by other means. Those other means would be Sperry rail test cars. They test the internal integrity of the rail. Geometry runs, which are -- and the TDC-2 or the GRMS, they measure geometry, which would be cross-level line of surface, and also gauge. Also, they measure rail wear, so that allows us to have data to allow -- to help us predict our future needs of rail wear. That is used in

conjunction with the field measurements.

We did some of those measurements yesterday, so you saw how we do field measurements. It's very simple, templates on the rail, very simple, but it's very accurate. And it can back -- it either can confirm or deny what the data is saying from the cars, same as a level would, will help us confirm or deny if they're giving us good data.

Above that there are devices attached to certain locomotives that give us some ride quality information that don't really tie to defects, but give you some predictive information; is something going on there that we need to know about? We also have help from the FRA with their ATIP inspections, and we get that information. Now that is real-time, now in ITIS. So when ATIP finds a defect, it actually is in ITIS now, too. Automated Track Inspection is ATIP. ITIS, we've talked about that. That's our Integrated Track Inspection System. So, that is real-time.

So the VTIs in the locomotives, that comes into the IT IS; it's tied in there now. So it as more and more external data is gathered, it's fed into ITIS, which then in real time, if the track inspectors or the roadmasters or the engineer of track or myself hook it up, GPS is turned on, we want to see what's going on -- and I do this quite a bit; you turn it on, you're hi-railing down the track -- it'll actually tone at those locations. There's a Sperry rail. Well, get out and you look at it. You see was it fixed, what is it, what's going on there. So, each level to a

broader degree sees what's going on with that information.

And then what's kind of even better, we're taking that information in Jacksonville, and then with outside concerns, contractors, and using that information to help us predict some of the other actions we should take. So, our people in Jacksonville help us predict our program work going forward, what kind of work and where. The outside concerns help us decide some of the other things, inspection frequencies and things like that.

Q. Okay. And then your explanation -- you're in agreement with maybe the characterization that Owen Smith gave us about data streams, but I think in your answer right now you've even added a couple of more data streams, like the stuff from the locomotive ride quality and such.

But I do want to clear up one thing. When you said you're going down the track and you get a tone, we should understand that as what, an audible alarm?

A. An audible alarm. When ITIS in its perfect form is working and GPS from the satellites are working like they're supposed to -- and you saw the desk that's in my truck, so it's a very similar set-up in a track inspector's truck -- and the ITIS sits in there and the antenna is hooked up and it's turned on, and you're having to be looking because you can tell it not to do that if you don't need to, but on a regular frequency, they do. And it's turned on, it's working to detect those. Every time you come up to a defect, where you can just tell it to say all the defects,

you can tell it to say current defects, you can say due defects or overdue defects, however you want to set it up, and it will tone off on the detected defects from the Sperry car, the ATIP, the geometry car. It will give you an audible tone several thousand feet before you get to the defect and then at the defect. So, it's warning you there's one coming up, and then when you get there it tones off, and within 10, 15 feet you get out and you're there.

Q. And all of this to make to visual field verification much easier for the person that is conducting the hi-rail -- conducting the inspection, conducting the follow-ups?

A. Absolutely. Because sometimes they're hard to fine. They are not always obvious.

Q. And I would want to put in the record that it is not uncommon on the lower end of the Old Main Line to get into a series of curves, and if your data information is talking about a curve, it's important to know which curve when you're in a series of curves?

A. Absolutely.

Q. Okay. So, let's talk about training. And you heard our conversation about employees, track inspector foremen going down to the REDI Center at Atlanta. And Owen's part of it. When he comes back -- add your perspective to that discussion that we had on training.

A. And it's like I said in the last interview, I've never

been to the REDI Center to see the training, but I have seen the guys when they come back. And the roadmaster's primary responsibility in that is to assure that the stuff that they learn down there is utilized. Because it's really nice to sit in a classroom and have somebody tell you what things are, but it's much better to have somebody show you. So, to utilize that information that they gained in the REDI Center out in the field, well, this is what they -- you know, when they told you that, here's what it is.

And then part of the engineer of track responsibility, which is the next level up, and my responsibility, is to follow up by general observations, did they get -- are they doing what they're supposed to do?

And I had the opportunity to hi-rail another territory a while back where it wasn't going the way I thought it was, and the roadmaster and I did a lot of on-the-ground training. So, physically me showing the roadmaster or me showing the track inspector, you know, how easy it is to do what they need to do. So, it has to happen, and if I don't see it happening the way I think it should be or the engineer of track doesn't, it's our job to step in and make sure that field training continues.

Q. Okay. And let's segue from your comment there to issues of specific track conditions. And you heard us talk with both of the previous interviewees about fouled ballast conditions, saturated ballast, and help us to understand, what are the

expectations that you provide to your field personnel? How do you want them to handle that? How do you look at those kinds of things?

A. And the track inspector actually did a really good job of explaining the expectations. The expectations are if they find something that they can handle, they need to at the very least open it up, get the water to drain. That's a very easy, easy repair the track inspector can make in just a few minutes, and they should be doing that where they can because that will in many cases correct the problem, if they can just open up the mud dams that are at the end of the ties. Beyond that, the track inspector needs to take action based on his training. So, if he thinks a saturated subgrade or fouled ballast condition requires a slow order, regardless of the geometry, he needs to put a slow order on it. And he needs to communicate with the roadmaster on conditions that don't require a slow order so that the problem can be repaired.

Q. Let's talk about the term open up, because I want people to understand that. If I'm a track inspector and I'm hi-railing whatever subdivision on the Baltimore Division I'm hi-railing and I come to a place where I see an accumulation of mud, and let's stipulate that this is on the beginning end of it; it's not something that's a half a rail length or rail length long, but maybe is just a few ties. And by opening up, should I understand that to mean I stop the truck, I get out, I grab a pick, I put the

pick in my hand, I put the pick in the ground at the end of the ties and I open it up until I see the water running out --

A. That's correct.

Q. -- or I provide some disturbance or breaking up of some cemented mud to allow some drainage to occur?

A. That's correct.

Q. That's what open up means?

A. That's what it means.

Q. Okay. And do you think that's what it means to the track inspector and the roadmasters as well?

A. Yes.

Q. Okay. So in terms of the explanation that the track inspector provided, you're in agreement with that?

A. Yes.

Q. Okay. Well, let's move on to some other stuff, then.

In the course of our couple days of hi-railing, we brought some other terms into the conversation and I want to talk about the term self-help. And we did talk about it a little bit in the other interviews, but let's just have a little bit more detailed discussion about the term self-help, because that can mean different things to different people. And in terms of your track maintenance and how you guys go about improving your railroad, take it from there, Randy. And if you can, give me some examples of where you have applied that.

A. All right. And so, we have a program system that

creates capital improvements. So, a lot of the work that we do, the major work, laying rail, installing ties, is -- that is programmed now for next year, and they'll -- large gangs will come and do that work. A lot of the work that the basic force is very small work, such as putting in track balls, fixing a rail, and none of that is truly self-help.

To be truly successful, that's that middle work that is not included in the stuff that the big gangs do or the just daily maintenance. It's laying a curve that's not going to -- a rail that's not going to be done by the big gangs. And we've done that a lot of places on the Baltimore Division, and specifically on the Old Main Line. Some places that you saw yesterday, at milepost 11 they laid about 800 feet; 16.6, they laid 800 feet; 17, 450 feet; 21 -- or 22, they were in the process of getting ready to lay that along with the road crossing repair. We saw that work going on. They were getting that crossing ready at Woodbine. So, all those things happen outside of the program work. Also, in the last curfew that happened on the Old Main Line, there was two other locations where they laid 1,000 feet of rail.

So, they lay several thousand feet of rail on the Old Main Line, and that goes on everywhere on the Baltimore Division. On the Cumberland side, we had a curve that we had some concerns with and we laid 1400 feet, and actually right now in the RF&P at Fredericksburg there's a location where they're laying a curve that's over 4,000 feet of all new rail.

Q. Okay. And, Randy, your opportunities to engage in some of that self-help is derived from the management of some release materials and cascading of rail from maybe one place to another?

A. It can be, but all the opportunities I described to you there were all new material. That was all brand-new rail going on the track self-help.

And there is another one, I mean, the week that I had just this list of the things that I thought about it, is that at Cumberland Yard where we did cascade material here about 2 weeks ago, they laid well over 2,000 feet of cascaded material that was from this year's curve patch that we took into the yard to lay out some older rail, join a rail in the yard.

Q. And the purpose of that is to extend the service life of all those different kinds of components, whatever they are?

A. Yes.

Q. Okay. I think that's all I've got right now, so let me thank you and let me pass it off to Rick Inclima.

MR. INCLIMA: Thank you, Dick.

BY MR. INCLIMA:

Q. Thank you, Randy. Just a couple clarifying questions. Just so I understand, the self-help is -- I mean, do you have certain work that you request to go into capital, for capital improvements that doesn't make the cut and that's some of the work that you do in self-help, or --

A. It can be. I mean, it's like anything else that any of

us do. You always ask for more than you need. I try to keep it pretty close to what I need, but there's still always that stuff in there that's marginal. And yes, that's part of it. But beyond that, there's things that change from -- I mean, we're talking a year out in the future. There's things that are going to change between now and then that I have to do. And then there's other things -- a really good example, you saw it the day before yesterday when we were hi-railing, the tunnel work that we're doing, where we're cleaning the tunnels out and getting -- and upgrading those, drainage in the tunnels. That's not part of what would be program, but those are pretty big projects that aren't just normal, small ditching projects.

So, it can be any range of things for any reason. You know, it can be something as simple as a track inspector coming up to me and saying -- and it happens -- hey, you know, you need to take a look at this for me; would you go look at this? And then I'll go and look at it, and a lot of times I'll do it -- you know, I'll just -- at the end of the day I'll go and take a ride and go look at something and, yeah, you're right; we're going to do something, and it'll happen at my level. Almost all the time, though, it happens at the roadmaster/engineer of track level. That's where those kind of projects start. And then they just ask me for some of the resources that they may not have.

Q. Okay. Thank you. Just a little bit on rail wear detection, Randy. I thought I heard you say that some of the rail

wear, the rail profiles are done automated?

A. The rail profiles and the information that we shared the other day with the rail plots, that is all created from the geometry cars and it is all automated.

Q. Okay. So it's a geometry car --

A. Yes.

Q. -- actually does that?

A. Has laser rail measuring systems on the geometry car.

Q. Okay. And then you or your forces, correct me if I'm wrong, would go out on it at some basis and do a manual, you know, with a rail wear gauge?

A. Yes. My guidance to all my engineers of track and the roadmasters is that every curve on the division will be walked once a year for the purpose of measuring the rail.

Q. Okay. So --

A. So that's above and beyond the automated measurements. I want them to verify physically that the automated measurements are correct.

Q. Okay. So that's essentially in addition to the instructions that you give to your inspectors to walk curves --

A. It can --

Q. -- based on the degree? They walk it --

A. They can be done concurrently --

Q. Right.

A. -- but it's above and beyond, yes.

Q. Good idea. Okay.
A. Yeah.
Q. Good, okay.
MR. INCLIMA: That's, frankly, all I have at this point in time.
MR. HIPSKIND: Thanks, Rick.
MR. INCLIMA: Thank you.
MR. HIPSKIND: Frank, do you want to add to the discussion?
MR. CROWTHER: Yeah, I would, a couple of questions, maybe clarification.
BY MR. CROWTHER:
Q. We talked in the past couple of -- with the couple past interviewees about coming out of the REDI Center into the field and what the responsibilities were of the roadmaster, and now you were just asked, you know, how you interact with these new hires.
Is there mentors assigned to these people in the field when they come out for their OJT work?
A. Yes. When a new hire comes out to the field, the process is that he's assigned to somebody. So, that person is someone that's not a manager that they should feel comfortable with asking what may be for somebody with a lot of experience a stupid question, so that they won't be afraid to ask questions and learn.
Unfortunately, sometimes the person that's their mentor

doesn't have a whole lot more experience than they do, because there's no one else there. So their mentor, this person with 3 weeks on the railroad, may be mentored by a person with 2 years. And that's where it's very important that the roadmaster and the engineer of track and some of the other more tenured folks that are around there are involved in that development.

Q. And the mentor discusses with the roadmaster periodically what's going on with the person that was assigned to him?

A. Yeah. Especially during the first 90 days, yes. Because it's very important after that, that if the person is not going to become a good track person -- some people just aren't railroaders and they aren't track people, we need to know that within the first 90 days. And if they are going to succeed, then beyond that, what do we need to do to make this person become very successful?

Q. Now, down in the REDI Center, I know from previous experience of getting material, all these employees are trained, given a lot of knowledge and manuals and all the books they need to be good employees and know the ins and outs of their tasks that they're assigned to do in the field. But once they come out in the field and they have these mentors and people like yourself and the roadmaster and the engineer of track are visiting with them and talking to them, is there any -- other than the OJT, is there any additional classroom, exam type of work that they perform that

is graded that you can actually -- so you can actually look and see, follow along on their sustainability of the knowledge that they're, you know, getting so that they stay productive and safe in the field?

A. Not necessarily that they're graded on or monitored to see if there is improvement or not improvement, but they will attend all the training, safety training that everything else attends and we have quarterly classroom training for everybody that ranges from operating rules to -- I mean, there's just myriads of training we do every quarter throughout the year. There's the FRA training that everybody attends whether you're FRA qualified or not. Same thing with the operating rules, you attend it whether you're qualified or not. The CWR training, you know, whether you're a CWR, a guy that's going to deal with that, you attend that training.

And actually, you know, you asked that question, one of the ideas that was just brought up at our last overlapping safety meeting was, can we do more? And the guy that volunteered that question was assigned the task of, well, you tell me what it is we need to do more because I think it's a great idea. How do we take these guys that are beyond the 3 months but not yet to the 6 months or year, what do we do there? So, we're actually trying to think out of the box for that kind of training, where do we go from that here on the division. So, we actually did think that, but there is tons of training that they go through every quarter.

Q. Another question, going back to the track inspectors. Dan, the track inspector that we interviewed earlier, he's fairly new to the railroad; not a month or a year, but he's fairly new, just a couple of years on the job. And he went to the REDI Center and then he had his OJT. Is there any -- has he received any additional training since then in a classroom or -- I guess what I'm looking for is even if he was 15 or 20 years on the railroad, is there any continuing education in the type of job that he does with the new knowledges and the new type of work that's being performed, like gathering all the data that we are gathering now, the FRA and the CSX, the railroads, you know, to be -- to get more bang for the buck, shall we say, with the track structure and being safe to make sure the track structure is safe at the same time? Once he's trained, is there anything else after that? Is, you know --

A. And I guess the answer is yes. You go to the REDI Center for your initial training, which is 3 weeks in the REDI, and that deals with the very basics of railroading. And then after you've been on the railroad for 6 months, you have the opportunity to go to track inspector's training, which is what -- you know, Danny did that sometime in relation to his track inspector, and I don't know when that is, but he's been there.

And then the next level that was just rolled out within the last 6 months to a year is called advance track inspector training, and that is designed for the more experienced track

inspector or in somebody like Danny's case, where you get -- you go through the initial track inspector training, you worked a job for some period of time, and I don't know what that proper period is, but you actually get a feel of the experience that Danny was talking about -- well, what does it mean? And then you go back down and now we're going to teach you that next level of stuff that makes you a better inspector. So yes, there is.

Q. Okay. Thank you. And a little bit on self-help. Self-help is the backbone of the subdivision. If they didn't have that, it would be pretty difficult out there. So you're talking from your level of a division self-help, and then there's the subdivision self-help, correct? Am I wrong in --

A. Well, every roadmaster has their own version of self-help.

Q. Okay. Now, when you talk about these gangs that come in to lay rail and do your tie work, the capital work, those are system gangs?

A. Yes.

Q. At one time there was division gangs that did that work.

A. Engineer of track -- yes. And the engineers of track still have folks that they can help, that -- a lot of the self-help, we call it that, but it is division self-help because the engineer of track realizes to lay the amount of rail that Owen has laid on the Old Main Line, he needs a little bit of help.

Q. Where do you get all those people that do this self-help

work?

A. They're part of our workforce.

Q. But do they come from other subdivisions?

A. No. They're extra -- they're gangs that are working all the time. They are scheduled for -- these self-help projects generally don't just -- they can, they can come up in an emergency, but generally they're more medium-term projects where the roadmaster and the engineer track or myself say, you know, we need to schedule this self-help project in for these folks.

Q. Right. Now, Rick had asked you earlier that -- where some of the self-help projects, capital projects that were requested that were turned down. And I would like to have you clarify that, because if you are going to lay some rail, CWR, continuous welded rail, on a curve that has met its time to be changed and you're going to do it under self-help, shouldn't that have been put into the capital request? And if it was and it was turned down, why was it now a self-help?

A. Well, we talked a little bit at my last interview, and you saw some of it when we measured the rail on the Old Main Line. Some of the requests have not yet met the threshold for the wear. So, it may not make the cut for the rail because it's not there yet. It really hasn't -- you know, you got no top wear. You haven't quite met the 5/8th side wear. It doesn't make it. So it hasn't met any of our guidelines that it would be replaced.

And then during the time between that program going in

this year and the work happening next year, the wear accelerated, and it can and I've seen it many times. Rather than going through the change order process, which we could, and getting it added to the capital program, it may be just as easy to lay the rail ourselves. So, self-help can be just a decision by the division and/or subdivision roadmaster to do it ourselves.

Q. Okay. And in the scenario you just described, if you were to do a change order, when you make the change order into a program that's already been designed and laid out, you know, for the upcoming season, is something taken away to get that job in and approved or is it added on?

A. It can be both. I've had it added on and I've traded stuff out that didn't need to be done that was in the program.

Q. Okay, thank you.

MR. HIPSKIND: Thank you, Frank.

Jim, anything?

MR. SOUTHWORTH: No. I'm good right now.

MR. HIPSKIND: Are you doing good, Randy?

MR. DANIELS: I'm fine.

BY MR. HIPSKIND:

Q. Okay, let's keep talking. I want to segue off of some of what Frank brought up about self-help and rail replacement, and we had talked last time about the lead time that's required for you to go out and measure specific curves and to measure the rail wear, to put that into a spreadsheet and forward it to

Jacksonville for their review and approval of certain requirements. And we've talked about all that.

But some of what I want to talk now with you about, if you will, is for you to give us your thoughts and explanation about, just in a fundamental way, how do rails wear; why do they wear; what are some of the mechanics there. And I really thought it was good of you to bring into this discussion about accelerated wear. So, if you could cover those three things and maybe even bring in the term, if you think it's appropriate, rolling contact fatigue, and give us your thoughts on that? I'm here to listen.

A. Well, and in my experience with rail, and there's two ways that rail wears. In a curve it's going to wear because of the wheel action against the gauge side of the rail, just basically the steel against steel wearing the rail away. And then the other method is top wear, which can occur in a curve or in tangent track, which is basically the rail being squashed, just being flattened out, cold warped.

And when I mentioned accelerated wear, it's more unexpected. It's not so much accelerated as it doesn't wear at the rate that you think it will. So, a good example from my experience is, I had been on the Keystone and been walking curves like I expect my engineers of track to do now for several years, and there was a curve that was wearing at about an eighth-inch a year, and continued to do that for the third year and this was the fourth year I walked the curve. And for whatever reason, it had

gone well over a quarter inch in a year, which made it -- if it continued at that rate, there's no way it would've made it to the next cycle. And that was one of the locations where we had to do a change order and have the curve added to the program.

Why it does that? A 122-pound rail is a rail that we have a lot of that type of rail on the railroad, not so much on the Old Main Line, but in many other locations, and in my experience, top wear, 122 will wear to about a 7/16ths top wear and it just stops and it won't wear. That's just experience just observing it, until some point and then it will start again. And I don't know if that -- that's a metallurgical thing, I'm sure. It has to do with how the rail hardens. I'm not a metallurgist. I can't explain it. I just know I see that; that's what I see.

Q. Okay. And is some of what we should think about when we talk about rail being installed in track, let's say in the year 2000 -- or it's manufactured in 2000. You were the railroad that ordered it. It comes out into the property. You install it in the track in a curve or tangent track. But the point is, so along about 2001 you've put this rail in service, a new rail. And we saw some of these examples when we were hi-railing. And the point I'm trying to make here is, it's also about the accumulative tonnage over a long period of time that possibly affects the loss of the original rail profile or the loss of rail in general?

A. Absolutely. Tonnage is -- or the number of wheel sets, which relates directly to tonnage, over rail will drive the rail

wear, yes.

Q. Okay. And when we talk about rail wear, we need to understand that rail is a very expensive item or -- I mean, it is, or --

A. Rail is very expensive, yes.

Q. Okay. And the desired result is to extend the life of the rail?

A. Correct.

Q. Okay. With that said, tell me some of the strategies that CSX employs to mitigate rail wear.

A. One of the best strategies is lubrication. Rail lubricators, making sure the rail is properly lubricated to help the wheels steer through the curves properly. So that would be gauge side wear. We also use top rail lubrication. That's a fairly new technology that helps reduce top rail friction. It will help the top wear.

Making sure that the curves are properly designed. So, does the curve have the correct elevation for the speed? Too little elevation, you can get too much gauge wear; too much elevation and the low rail will flatten prematurely.

Q. Okay. But in all of this, it's just kind of a fact of life, whether you're lubricating the rail or grinding the rail, you are going to have wheel flange contact with the gauge side of the rail?

A. That's correct. And I did -- and you said it, I did not

say that rail grinding is very important too, and we do cyclically grind the rail at a minimum on the heavy tonnage lines once a year.

Q. Okay. And that is really kind of a dress-up of the rail, right?

A. It dresses it up, cleans it up, makes sure the profile is right, puts the wheel where it should be on the rail as best that you can. So --

Q. Over the web?

A. Over the web, over the center of the rail.

Q. Which is, that's the ideal contact point for ideal wear. Would you agree with that?

A. Yes.

Q. Okay. But the long and short of it is that the original profile dimensions of the rail are going to diminish over time, whether we are talking about top wear or gauge side wear?

A. Yes.

Q. Okay. Is some of the concern that you and the rail industry have is when you start getting certain limits of gauge side wear?

A. Yes. One of our standards that drives rail replacement is gauge side wear, yes.

Q. Okay. And let's talk in terms of some common defects that you would see if you get into both a top of rail wear and a gauge side wear. What comes to mind that you think may start

getting on the radar screen as far as Sperry testing and maybe some concerns you might have for rail replacement?

A. As the rail wears, and to some extent it's unique to each location, but you may see some surface conditions -- and in this case I mean rail surface conditions start to occur, so corrugation, spalling, shelling. And then eventually you may see defects that have been detected by the Sperry car, so it might be a TDD, a transverse defect detail, which is an indication of some damage to the outside of the rail with the defect moving in. That would be the primary thing I would look at as the rail starts to wear.

Q. And some of that may -- and I don't want to put words in your mouth, but some of that may go back to the term I used earlier, rolling contact fatigue?

A. Yes.

Q. Okay. So, as -- just in general terms, when you newly install rail, you're going to be pretty good with that for a while, and by that I mean you're not expecting to see defects in it and you're probably expecting to get a lot of initial rail service out of that newly installed rail?

A. It is very unusual to see defects in new rail, yes.

Q. Okay. And that's all part of your rail replacement programs, you want to get worn rail behind you and get more stability and predictability in the service life of newly installed rail?

A. Yes.
Q. Okay. And that helps you out on your overall scheme of the defective rail numbers that you may see in your Sperry test cycles?
A. Yes.
Q. All that combines?
A. Yes.
Q. Okay. Thank you for all that explanation and all that comment and insight.
MR. HIPSKIND: That's all I've got for right now. Let's go around with a second round, then.
MR. INCLIMA: Thanks, Dick.
BY MR. INCLIMA:
Q. Just a question, Randy. Did Danny go to the advanced track inspector school?
A. Not yet. He really hasn't -- he's to the point now where he's about ready to be there. But it doesn't do enough good to go to that advanced school until you've had enough field experience to be able to utilize the additional knowledge.
Q. Okay. Thank you.
Do you have any sense of how many times you get SSCs where you can't get a good test? I mean, is that a --
A. It's fairly common. And an SSC is shell -- corrugation. It's a notice of a defect. It's --
Q. Is that shell, spall -- I think it's shell, spall --

A. Yes.
Q. -- and corrugation.
A. Shell, spall and corrugation. And it is not a real defect. It is an indication of where they've lost their ability to see the bottom of the rail.
Q. Right.
A. And they mark -- yeah. And it is to do with us then having to take some surface treatment to the rail so that we can retest it. It doesn't really require us to do anything more than monitor it until the next test cycle, take some action, try to improve the rail surface conditions to allow a better test.
Q. Okay. And just for the record, Randy, the rail testing program you have in place currently -- I think it's on a 31-day cycle -- is that testing required on your Class 2 track by the FRA?
A. No. Our testing cycles in almost all situations exceed the FRA requirements significantly.
Q. Are there FRA testing requirements for Class 2 for rail flaw detection?
A. I believe we do not have to test Class 2 track.
Q. Okay. Thank you. So in that same sense, any follow-up you do with a non-valid test section, SSC, that would be something that CSX is doing over and above anything that's required by FRA?
A. That's correct, yes.
Q. Okay. Thank you. That's all I have.

BY MR. CROWTHER:

Q. Just one follow-up question here, Randy. You mentioned rail lubrication as being one of the key components of trying to control rail wear. I was just wondering if the Baltimore Division has a program that would go out and measure coefficient of friction to see if the curves have too much grease on them, not enough grease; is the grease located on the rail head properly to get the best use of it; are some curves not enough grease, they're dry because the greasers aren't placed properly; are the greasers lined up to protect curves in both directions, eastbound and westbound?

A. I would say a program to measure the coefficient of friction is probably a little advanced for us, but I will tell you that the engineers of track and the roadmasters and myself monitor that during our hi-rail trips, and we do -- and it is not unusual for us to add lubricators or move lubricators to improve coverage.

Q. Okay. Do you know if the division, region or system has a tribometer that they can get a hold of to use to measure coefficient of friction?

A. I'm sure there's one available. I've heard that term before, but I've never asked for it.

MR. HIPSKIND: Thank you, Frank.

Randy, I don't believe I've got any more questions, and let me just pass it over to Mr. Southworth.

MR. SOUTHWORTH: I don't have any additional questions,

either. I appreciate you being (indiscernible) giving us the verification and some of the clarification in more detail than what we've had before, and some of the acronyms as well, (indiscernible) backed up and got that one. I'm glad for that.

BY MR. SOUTHWORTH:

Q. One small question. You said something about the 122-pound rail that -- when we were talking about accelerated wear. You said that the 122-pound rail -- 122-pound rail wears to a certain point and then sort of stops.

A. Yes.

Q. So it gets to a certain thickness or is it -- is the wear, when it's worn to that point, across the entire surface of the top of the rail or it just gauge --

A. Yeah. And you saw the gauges we used. This is top wear; this is not side wear.

Q. Right, top.

A. Side wear on 22 is just like any other wear. It wears depending on the curvature and the tonnage and all the conditions that can cause curve wear, side wear. This is top wear, and you put -- when you measure top wear, you put the template on it, which is a piece of aluminum cut out in the shape of the rail, and you put a taper gauge in the top of it in the center of the rail and measure it.

And in my experience, the 122 wears. And then basically if you think about the wear a steel mill works, it's cold rolled by

the wheels, and what I believe happens, basically it just -- when it gets to 7/16ths, it's hardened up to the point that it's really head hard, solid rail and it just doesn't wear any more at that point.

MR. SOUTHWORTH: Does that have any tie-in to your questions related to coefficient of friction?

MR. CROWTHER: No. But I do -- can I ask another question?

MR. HIPSKIND: Frank, please do. This is open discussion here.

MR. CROWTHER: Okay.

BY MR. CROWTHER:

Q. Does CSX have a program to grind new rail, and if so, what is the time frame after new rail is laid before it is ground? Because you were talking about work hardening rail, and that is part of the program.

A. The entire division gets ground once a year, and we do not skip new rail. So, if the rail is laid the day after the grinder goes by, it will be ground in a year. If the rail is laid the day before the grinder goes by, it gets ground in a day. But it's just not ground very much in that day.

MR. SOUTHWORTH: Rick, do you have anything?

MR. INCLIMA: No, I don't.

MR. HIPSKIND: I've just got a couple --

MR. SOUTHWORTH: Oh, okay.

MR. HIPSKIND: I just got a couple more things to deal with real quickly.

BY MR. HIPSKIND:

Q. Randy, in one of your answers earlier you used the word Keystone. I took that to be a location. Could you just elaborate for us, Keystone is what? A subdivision, a city?

A. The Keystone Subdivision is a line that runs west of Cumberland on the Baltimore Division where I was engineer of track before I became division engineer, and it -- because it is a high curvature line, also I can tie a lot of my experience at that location to the Old Main Line.

Q. Okay. And this one's my fault. When we were talking about the discussion of rail wear strategies and rail replacement, we did not put in a couple of important terms, and these are some things that we observed in our hi-rail trip over the last couple of days, which was very helpful.

But we saw some indications where you were experiencing some rail wear conditions. And I don't mean to indicate that they were beyond your threshold, but rail wear conditions, and part of our conversation out there was, well, Dick, that is standard rail. And so help us to understand some of the choice that you have when you order replacement rail: different grades, what you expect to get out of that, and how some of that fits together.

A. Okay. There's basically three types that I know we get. It's standard rail, head hardened and premium. And at each level,

the hardness of the steel is higher, so it's harder rail. At each level that we go up, the rail life is longer. So, in high tonnage, high curvature areas, CSX now uses premium rail. That's what we put on. We put the highest level of rail that we can purchase on those areas to increase rail life based on wear. Because if you -- on those areas if you put standard rail in, it's going to wear much, much faster. Depending on the curvature, it can be replaced in 3 to 5 years versus maybe 10 or 15 years with premium rail.

Q. Okay. And at Ellicott City in and around the curves in and around the derailment footprint, when we were out there were we looking at standard rail for the most part?

A. I don't know that. The rail -- I did not look to see what rail came out of the track at Ellicott City, so I can't answer that question. I know the rail that was laid --

Q. Recently.

A. -- recently, that was all premium rail. And everything that was laid last year there was premium rail.

Q. Okay. Is that something that you could check for us and get back to us with whether that rail that was in there was standard or not?

A. The derailment curve, or --

Q. Yes.

A. Maybe.

Q. Okay. I'll accept a maybe, but just -- I think that the

takeaway I get from it, whatever it was, the rail that's there now is premium?

A. Yes.

Q. Okay.

MR. HIPSKIND: Frank?

BY MR. CROWTHER:

Q. The 141-pound that's at the 113 -- or at the 13 curve is premium rail. The 140 is standard rail. And the rail we took out is 136, which is -- and that came out of -- that was a reused piece of rail. That was --

A. No, no. That was not. I don't think that piece was.

Q. Yes, it was. I asked specifically was that a plug that you put in reused. The plug was reused.

MR. HIPSKIND: Well, it's your opinion.

MR. CROWTHER: Yeah, it's my opinion.

MR. HIPSKIND: It's your opinion that likely when they use plug rail and/or if they use rail plugs that will best match the rail and track, the thought is it's more likely to be standard.

MR. CROWTHER: Yes.

MR. HIPSKIND: Okay. Is there more you want to say about that?

MR. CROWTHER: Well, I was challenged on my question, and I specifically asked his employee who was in charge of changing the rail out, what kind of rail was it. And you

mentioned that you had curve wear and you had to get a match, and you couldn't put a new piece of rail in and you couldn't put a full-ball piece of used rail in, so you had to look for a piece of used curve-worn rail to get a good match. And that was the piece of rail that broke, that was cut in, and it was 136-pound, and the rail on either side was 140.

MR. HIPSKIND: Duly noted.

Any more questions?

MR. SOUTHWORTH: No. That took away my last one. I was going to move up from 122, but I got what I was wondering about.

MR. INCLIMA: I would just ask Frank for a clarification. When you said that a rail that was replaced with similar worn rail, that was prior to this derailment, right, that this was --

MR. CROWTHER: In March there was -- in March --

MR. INCLIMA: Okay.

MR. CROWTHER: -- there was a Sperry defect found, and they strapped it. And 10 days later, the roadmaster traveled across and found that the internal defect in the head had broke, in the strap. And he didn't like that, and so he had it changed out with that piece of rail.

MR. INCLIMA: Okay. Thank you.

MR. HIPSKIND: Okay. And one way we can know some of the details about this, other than what people have told us or what we think, is to go back and look at some of the Sperry test

data.

MR. CROWTHER: I did.

MR. HIPSKIND: Okay.

MR. CROWTHER: And I checked the CSX records for broken rail service failures and disturbed track, and it's recorded.

MR. HIPSKIND: Okay. And later on today we are going to have your interview, and we may get into a more deeper discussion of all that. If that's okay with you, okay?

MR. CROWTHER: No problem.

BY UNIDENTIFIED SPEAKER:

Q. Can I ask one more question on rail, Randy? Maybe you can or can't answer this, but it's -- prior to the derailment, we had this defect found and they said, okay, we're going to replace this section of rail, however many feet it was. How or is your replacement used rail tested? I mean, is it tested prior to being laid? Is it tested based on the last Sperry and MGT? I mean, how do you --

A. There's two methods.

Q. Okay.

A. First method, we can buy it from an outside vendor tested. So, it comes to us -- you know, the roadmaster says I need 10 pieces of 132, quarter-top, quarter-side, and that means quarter-top wear, quarter-side wear. It comes from the vendor tested, certified.

The other way is when we do capital improvements on the

rail, within certain guidelines by CSX that rail upon removal from the track can be certified by our outside contractor. And so, then, the roadmaster identifies that rail, contacts the outside vendor. The outside vendor comes out, takes the documentation to verify that it is within the guidelines we have, inspects the rail and tags it. So, that's the two ways we can get certified rail.

Q. Thank you.

MR. CROWTHER: One more question.

MR. HIPSKIND: Frank, you are entitled to all the questions that you want to ask.

MR. CROWTHER: Yeah, okay. Well, this is all being recorded still, correct?

MR. HIPSKIND: Yes, it is.

BY MR. CROWTHER:

Q. Okay. When you get the certified rail, does it note, or are you notified how much rail wear has occurred, and did the rail come out of the low side of a curve, the high side of the curve, and what degree of curve did the rail come out if it was in a curve?

A. We get information -- we get the rail based on the request, which is only the amount of wear and no other information.

Q. All right, thank you.

MR. SOUTHWORTH: Anything?

MR. INCLIMA: No.

MR. SOUTHWORTH: Dick, you're done?

MR. HIPSKIND: Yeah, I think -- yeah.

MR. SOUTHWORTH: All right. Well, Randy, thank you very much again. Appreciate it. Do you have anything that you want to add or make comment on before we go off?

MR. DANIELS: No, I'm good.

MR. SOUTHWORTH: All right. I think we'll take a break now and start up again after lunch.

(Whereupon, the interview was concluded.)

CERTIFICATE

This is to certify that the attached proceeding before the

NATIONAL TRANSPORTATION SAFETY BOARD

IN THE MATTER OF:	CSX TRAIN DERAILMENT AUGUST 20, 2012 ELLICOTT CITY, MARYLAND Interview of Randy Daniels
DOCKET NUMBER:	DCA-12-MR-009
PLACE:	Ellicott City, Maryland
DATE:	October 4, 2012

was held according to the record, and that this is the original, complete, true and accurate transcript which has been transcribed to the best of my skill and ability.

_____

Joseph M. Parent
Transcriber