I, Jason Schrady, have read the foregoing pages of a copy of my testimony given during an interview relating to the accident that occurred on February 4, 2018, in Cayce, South Carolina and these pages constitute a true and accurate transcription of same with the exception of the following amendments, additions, deletions or corrections:

PAGE NO:	LINE NO:	CHANGE AND REASON FOR CHANGE
38	9	sides to sidings

I declare that I have read my statements and that it is true and correct subject to any changes in the form or substance entered here.

Date: 5/17/18 Witness: [redacted]

UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

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Investigation of: *
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COLLISION OF AMTRAK TRAIN #91 AND *
A STATIONARY CSX TRANSPORTATION *
TRAIN NEAR CAYCE, SOUTH CAROLINA * Accident No.: RRD18MR003
FEBRUARY 4, 2018 *
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Interview of: JASON SCHROEDER
Assistant Chief Engineer Signals
CSX Transportation

CSX Corporate Headquarters
Jacksonville, Florida

Thursday,
April 26, 2018

APPEARANCES:

RICHARD HIPSKIND, Investigator in Charge
National Transportation Safety Board

RICKY PAGE, Signal Group Chairman
National Transportation Safety Board

STEVE AMMONS
Safety and Operating Practices
CSX Transportation

ERIN O'BRIEN, Attorney
CSX Transportation
(On behalf of Mr. Schroeder)

I N D E X

I N T E R V I E W

MR. PAGE: Okay, we are on record.

MR. HIPSKIND: Good morning everybody. My name is Richard Hipskind, and I am the investigator in charge for NTSB for the Cayce, South Carolina accident investigation.

We are here today on April 26, 2018 at CSX's Corporate Headquarters in Jacksonville, Florida to conduct an interview with Mr. Jason Schroeder, who works for the CSX Transportation company, or CSX. This interview is in conjunction with NTSB's investigation of a head-on collision and derailment with injuries on February 4, 2018 at Cayce, South Carolina on CSX's Columbia Subdivision near milepost 367.1 in Lexington County. The NTSB accident reference number is RRD18MR003.

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

Again, my name is Richard Hipskind. The spelling of my last name is H-I-P-S-K-I-N-D. I am the investigator in charge for NTSB on this accident.

MR. AMMONS: Steve Ammons, CSX, A-M-M-O-N-S, safety and operating practices.

MR. PAGE: Ricky Page, NTSB accident -- rail accident

investigator, P-A-G-E.

MR. SCHROEDER: All right. Jason Schroeder, S-C-H-R-O-E-D-E-R. I'm with CSX, and assistant chief engineer signals.

MR. HIPSKIND: Okay. And, Mr. Schroeder, do we have your permission to record our discussion, our interview with you today?

MR. SCHROEDER: Yes.

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

MR. SCHROEDER: Yes.

MS. O'BRIEN: This is Erin O'Brien, O-B-R-I-E-N, and I am in-house counsel in the CSX law department.

MR. HIPSKIND: And, Mr. Schroeder, do you mind if we proceed on a first-name basis?

MR. SCHROEDER: Absolutely.

MR. HIPSKIND: All right.

INTERVIEW OF JASON SCHROEDER

BY MR. HIPSKIND:

Q. Jason, would you please give us a kind of a synopsis of your work experience and take us up to your present job and let us know how long you've been in that position?

A. Okay. So I've been with CSX since graduating college in 2002. So I've been with CSX for a little over 15½ years. I started off in signal maintenance, signal construction in the field, in Ohio.

I moved down to Jacksonville in 2004 in the Signal Design Department and I worked, you know, working on major capital projects, planning, design, capital management for about 5 years. And then in '09 I actually was promoted to director, service test engineering, and I was responsible for all the major installations and the testing in the field. So I've been doing that since '09.

And then here last year around March, I was promoted to assistant chief engineer. So that's my current title. My team's responsible for all, you know, signal engineering, signal design, project management, service testing and configuration management with the signal system.

Q. Okay. Thank you, Jason. And so kind of broaden our understanding, what are your duties and responsibilities? What do you do on a daily basis or monthly or annually?

A. Okay. So, you know, our biggest thing right now, of course we're putting PTC in, so my team manages all the wayside installations with that. So that would be everything from design, project management, to actually the testing associated with putting the signal system in service. So PTC's a big portion of that. We also work on capital projects, you know, associated with major siding extensions, capital improvements for transportation. So we're really -- my team's responsible for all the design and project management.

Q. Okay. I know Mr. Page is going to kind of drill down on some of the technical stuff but let me try to establish some

background. So regarding PTC installation, when -- what year did that kind of begin on CSX?

A. So you know, of course the law was passed in 2008. You know, I know for about a year, a year and a half, 2 years we were evaluating really what needed to be done. We really started to push this right around '09, '10, once we figured out what we were going to do. Of course, with projects it takes a little while from start to in-service to get to that point, but really our installations out in the field really started ramping up in about 2010, 2011.

Q. Okay. And just give me a ballpark figure, I'm not looking for anything exact. What percent of the overall PTC installation or implementation do you think -- where are you at now in that whole scheme of things?

A. Talk about overall just C&S or overall company?

Q. However you want to answer it.

A. Okay. From a C&S standpoint on the wayside, we're about 93 percent cutover right now. We have another 7 percent to go. We will be, you know, complete with our hardware through the end of this year and I think we've got a couple of subs that will go into the first quarter of next year.

Q. Okay. Now as I understand it -- my background is a track guy, but I've learned a lot in this accident. These installations, you do them a line segment at a time. And maybe that's 10 miles, maybe it's 20 miles, whatever the chunk is that

you bite off for your signal suspension to accommodate the installation, the changeover, the upgrade to PTC equipment. So my guess is that if you're telling me 93 percent of it's done, we're talking literally thousands of miles; is that correct?

A. Absolutely.

Q. Okay. Now if each installation chunk that you bite off and go out in the field and upgrade, if that's like in the 10, 20, 25 mile category, how many suspensions have you successfully completed?

A. Okay. So I know we've been doing signal suspensions for well over 25 years, way before me. I know if you just look back at the 10 years that I've been involved, we've had close to 1,000, I would say.

Q. And if we look at your ramp-up after 2010, whenever you started the big push, so we're talking 7, 8 years of that. We're talking literally hundreds of signal suspensions geared at upgrading wayside signals for PTC?

A. Yeah. So, you know, last year we had around 117 cutovers. If you looked pre-PTC, we would have been down in the 30s.

Q. Okay.

A. So it's about three times as what we've would have done without PTC.

Q. And the 117 -- average year, big year?

A. That's a big year, yeah.

Q. Okay.

A. We've been in the hundreds for, since 2013.
Q. Now you may not know all the way back to every signal suspension. That's not the question I'm asking you. In any of those previous signal suspensions, and I'm talking like for PTC installation, do you recall CSX experiencing an accident or an incident?
A. Yeah, no, we've never seen anything like this. You know, our train crews have done a, you know, a very good job during the suspensions and this is really the first time we've experienced something like this.
Q. Okay.
A. That I'm aware of.
MR. HIPSKIND: All right. Jason, that's all I've got.
Ricky, do you want to pick it up from there?
MR. PAGE: Yeah, thank you, Dick.
BY MR. PAGE:
Q. This is Page. Do you know how long the block was that was being cutover at Cayce, South Carolina?
A. Yes.
Q. The length of the temporary signal suspension.
A. Yes. So it was between the, you know, the 362 holdout and north end Woodford. So it was about the 362.5 and the 385.1.
Q. So about 23 miles?
A. There you go. Yep.
Q. Thank you. And we've already talked about that during this

cutover we had a temporary signal suspension; is that correct?
A. Yes.
Q. Who makes that decision at CSXT to have a temporary signal suspension?
A. So it's really our standard process for our major installations. So of course, we'll use a suspension for several things per our operating rules. One would be, you know, if there's an emergency. Typically hurricanes or storms, we'll use signal suspensions. And then some of these, you know, major installations, we'll utilize a signal suspension.
Q. Okay. But who would make that decision to temporarily suspend a signal system at Cayce?
A. I would.
Q. So you made the decision or approved?
A. No. I request these. So basically we determine, hey, we've got a project out there, you know, to put PTC in. What we would do is we would request approval from our operating department for the suspension limits. So in this case it would be, hey, we've got a project to put in north end Nassau, south end Nassau, north end Dixiana, south end Dixiana, and we're going to need a suspension from the holdout to north end Woodford. We would request that about 60 days prior to the cutover.
Q. So it's a concerted effort between different departments?
A. Yes.
Q. After you lay it, after you kind of lay it out for them?

A. There you go, yeah.
Q. Then they give their approval, also?
A. That's correct.
Q. Thank you.
A. So, of course, you know, during that process I work with our field test engineer to make sure we've got a good game plan. But, you know, really that's given to our Network Operations at that point to approve.
Q. What safety risk mitigation is considered when allowing a temporary signal suspension to be in effect? Is it dependent upon the type of cutover, the length of the cutover, or train traffic, or --
A. I'm not really sure, you know, how to answer that. I know we've got a set of operating rules, you know, that are really defined. And regarding the length, you know, whether it's short or longer, those rules are in place. I guess what I'm saying, we don't treat one different versus others. You know, it's a signal suspension and there's a set of operating rules that we follow.
Q. So in other cutovers have you ever used a different risk mitigation such as spiking switches or clamping switches or having switch tenders during the cutover?
A. So there are times where we'll use switch tenders. That's really, you know, up to our Transportation Department. They kind of determine that and it's usually where they -- you know, I really can't speak to why, you know, why they choose in some

instances to use them and others not.
Q. But usually the Transportation Department makes that decision; is that correct?
A. That's correct.
Q. Thank you. Who would -- who or what person or department would decide to operate under an EC-1, or a manual block, as oppose to operating at restricted speed during a signal suspension?
A. Well, like I said, this is our -- this has been CSX's, you know, approach to doing signal suspension, so, you know, it's our -- it's in the operating rules that this is how we would do it, with an EC-1.
Q. Okay. Let's talk about that for a second.
A. All right.
Q. Operating Rule 504.35 talks about removing signals from service when -- only when authorized by proper authority in the following circumstances: a storm, flood, (a); (b) prompt restoration of signal system disruption for other causes cannot be effected; or (c) construction work necessitates the signals' temporary removal from service.

And then Rule 504.36 states that: "Special instructions, dispatcher message, or Form EC-1 may temporarily remove block signals and signal rules from service. When the signal system is suspended, establish an alternate method of operation and notify all trains affected."

And then lastly, Operating Rule 504.37. It states: "Unless otherwise specified, when signals are temporarily removed from service, trains must," and there's five bullets.

1. Approach all Absolute signals prepared to stop and not pass these signals without permission of the train dispatcher;

2. Stop at drawbridges and railroad crossings at grade and be governed by the rules or special instructions in effect for that particular location;

3. Approach all public crossings at grade that are equipped with automatic grade crossing warning devices prepared to stop and provide protection;

4. Examine switch points of spring switches to confirm they are lined and switch is locked before making a facing point move; and

5. Operate switches and derails in accordance with the rules governing operating switches and derails by hand.

Do you know if 504.37 was complied with on the day of the Cayce accident?

A. So 504.37, so there was a general bulletin that actually is put out, you know, with every signal suspension and there are line items in there that, you know -- and I can read it here if I can find it here. But it speaks to, hey, it's not necessary for trains to approach signal prepared to stop. Highway crossings within the limits of the signal suspension are in operation. There's four or five items in there in the general bulletin, you

know, for 504.37.

Q. So in other words, the general bulletin exempted --

A. Supersedes.

Q. Supersedes --

A. Yes.

Q. -- the five bulletins in 504.37?

A. Yeah.

Q. Okay. Thank you, sir.

This temporary signal suspension planned for Cayce, was it planned for 2 days?

A. Yes. When we -- like I said, 60 days prior to the cutover -- you know, on average 60 days. Of course, you know, there are times we may be a little bit closer to the cutover or a little bit longer. We request the cutover and it was planned to start on Monday at 0800 and be completed on Tuesday. That's what we had actually requested and what was approved by the operating department.

Q. The day of the accident, the signal crew went off duty approximately 7 p.m.; is that correct?

A. Yeah, I've got that --

Q. For some reason that's in my mind.

A. Yeah, let me -- yeah, let me --

MR. AMMONS: Yeah, actually the prior day. The prior day, right?

MR. PAGE: The prior day, I'm sorry. You're correct, Steve.

MR. SCHROEDER: Yes, around 1900.

BY MR. PAGE:

Q. Because the accident happened around 2 a.m. the following day. Thank you.

What was the reason for the signal personnel going home at that time?

A. So we're governed by hours of service rules with our signal department. So, you know, in this area we had really -- I think we had 43 signalmen, 5 managers, and -- you know, we had all of our people in the area working on this cutover. So at the end of the 12 hours, by law, really that's all the longer we can work.

Q. You stated, we had 43 signalmen and 5 managers for a signal block of 23 miles. Would it have been possible to lay a number of those signal people down prior to that for a minimum of 4 hours? Does the code allow that, the hours of service code?

A. Absolutely, we could have done that. I know, you know, there was a -- you know, we go into these cutovers, they want to get these done as soon as possible, right? I know it's in the performance goals for our engineers.

And I know coming up to the end, he needed all these people to kind of -- you know, with the hope we could get it done early. So that was his thought. He's got, you know, he's got the authority to kind of make that decision out in the field, and he was driving to get it done. You know, if you think about these cutovers, you've got Task 1 to 50 to complete during the cutover,

right? And when you get to the end of the day, if you've got 50 complete, we'll put the signal system back in service.

And, you know, one of the things I know about signal suspensions and signal cutovers is that when you start a cutover there's risk, you know, with putting switches on hand, applying jumpers, talking to employees. There's the same risk when you end a cutover towards the end of the day. And one of the things we don't want our people doing is rushing and potentially causing a personal injury with one of our employees or putting a signal system back in service that's not completely checked and safe.

So, you know, I think he got to the end and he was close and he did not feel comfortable with where the signal system was and made the decision to stop. So but, you know, through the day he was pushing to kind of get it done.

Q. The five managers, providing they're not doing any type of signal work, were they subject to the hours of service law?

A. So they're not subject to the law, but we try to still -- you know, we don't want people working more than 12 to -- 12 hours. You know, they're involved in every bit of this testing, so we want everybody to be in good sound judgment. So, you know, we treat that as a group. So we try to stick to the 12 hours.

Now there could be circumstances where we may, you know, in a supervisory role have them stay a little bit longer, but, you know, we try to stick to it.

Q. Thank you. Do you know how long it -- the amount of time

taken to cut the signal system over the following day after the accident?

A. So I know -- you know, I talked with our folks in the field there and there was a couple times that they did testing, you know, once in the morning and another time in the afternoon when they got to it. I think, you know, depending on the work -- you know, I'm not sure about the exact amount of time it would have taken. It's -- you know, the situation was a little bit different because it was days later, right? And they had lots of time to think and kind of travel back there. So I don't know if the time would be exact, you know, as if it was in the real, you know, Tuesday morning type of environment.

Q. Okay. Thank you. Do you know the train count for that section of track at Cayce, South Carolina in a 24-hour period?

A. I do not.

Q. Thank you, sir. Did CSXT apply for a signal discontinuance with the FRA or --

A. Not a discontinuance. I know we put in -- we've got a waiver with the FRA around all of our new installations.

Q. Yes, sir.

A. And we had actually sent a letter in, you know, in compliance with that waiver to the FRA notifying them of this project.

MR. PAGE: I want to enter Exhibit S-7. It's a letter from Harry C. Rhoades, Director PMO C&S by CSXT, to Carmen Patriarca, Regional Administrator, 3, Federal Railroad Administration. And

the subject is installation of PTC compatible equipment, Florence Division, Columbia Subdivision, Phase 7, milepost S363 to milepost S380.

BY MR. PAGE:

Q. I want you to take a moment and look at that.

A. All right.

Q. Is that one of the documents you were referring to that you notified the FRA?

A. Yes.

Q. Could you read the highlighted paragraph as the end, towards the end for the record?

A. All right. "This arrangement will have no adverse effect on train operations and is approved by transportation and operating departments."

Q. Thank you, sir. What does that mean to you?

A. I think that means to me from a design standpoint, the signal system we're installing will actually be an improvement. So I think that's what that's referring to. You know, Dusty and this group, they're our design managers.

Q. Okay. Thank you. Did the -- did CSXT discuss the temporary signal suspension with the FRA verbally or in writing, in any manner, on this particular signal system cutover?

A. I know we've got a pretty -- our team in the field's got a really close relationship with our FRA inspector out there, so I don't know if they did on a local level. From an office

standpoint, I'm not aware.
Q. Okay. How many signal gangs are devoted to the modification of signal systems to afford the installation of PTC at CSXT?
A. So that, I don't know if I have the exact number. I can get that to you. I mean, I've got just a ballpark, but I would hate to just guess on the --
Q. How about a ballpark figures; is that okay?
A. So, you know, at the peak we were well above 700 signalmen. We're probably around 500 or so right now.
Q. Thank you, sir. Would it have been permissive to work the signal personnel past the 12 hours at Cayce?
A. So I've actually -- we've talked to the FRA and they've kind of given us a hard line on that. I think internally, I feel like the -- I feel like it would be the right thing to do, and I don't think it would adversely affect the safety of our employees to go a little bit longer. But we've got a pretty hard line on this right now from what we're -- we've been told by the regulatory, you know, governing FRA here.
Q. So to exceed the 12 hours of service law for a signalman would have resulted in a violation or a penalty; is that correct?
A. Yes.
Q. Thank you, sir. We talked about testing. What's the purpose for the testing? I mean, I know and you know a lot about signal testing, but the general public will probably want to know.
A. Okay.

Q. What's the purpose of it? What's the purpose of the testing?
A. So, you know, of course during the cutover, you know, that's the end result of a bunch of time preparation. So there'll be design, testing, we do a lot of work leading up to a cutover to make sure the signal system is safe for train operations.

So what we're doing during the cutover is we're basically removing the old legacy signal system. We're going to put a new signal system in place. In this case it was a PTC-compliant signal system. And during the day, and, you know, these 50 employees we've got out there working, what they're doing is they're validating that switches throw when they're supposed to throw, the signal colors and the aspects are proper per the routes and they're complete, and any applicable FRA test for the assets out in the field -- we're testing highway crossings to make sure, you know, the warning devices property activate on the approach of trains.

So, you know, in this instance, we had -- I've got the details here. We were actually testing 5 new signal houses, 17 new signals and 12 power switches, and then 9 highway crossings to make sure that they were proper and ready for train operation.
Q. Thank you. If only the hand-throw switches were left to check in this particular temporary signal suspension, could they have been clamped or spiked or removed from service and then had the signals placed back in operation?
A. I know the -- it's kind of hard to say. I'd have to go look

at, you know, this scenario just a little bit more. It kind of depends on -- you know, in some of these instances there are repeaters where we're, where we've got track circuits that actually interface with the control points where you've got your codes going in and out. And that's really utilized for the wayside signal system and the aspects at adjacent locations.

So I think if you're just going to look at one switch, you know, and that's the only thing out there and that repeater is actually proven, you could say, yes. But, you know, in this instance, from what I understand, we had more, we had more than that. I know where there was some switches we needed to test. There were also some aspects over several routes that we needed to prove.

Q. Thank you.

A. Yeah.

Q. Let's go back to switch protection and switch tenders. You stated earlier that Transportation Department decides if there will be switch tenders; is that correct?

A. That's correct.

Q. Were there any switch tenders during this temporary signal suspension?

A. I would have known this here about a month ago here. I don't know if I recall. I don't believe so, but I don't, I don't know that factual. We've had so many cutovers since this one and I don't know if I recall.

Q. Okay. During this temporary signal suspension CSXT used the operating method of EC-1; is that correct?
A. That's correct.
Q. As opposed to having trains travel on restricted speed; is that correct?
A. That's correct.
Q. Do you have any idea why CSXT made that decision?
A. Well, it's been -- like I said, I think it's been our standard process for well over 25 years. I think there is a risk when you have trains operating at restricting speed, especially while you've got signal work going on. You know, we could potentially take a signal outage and it could -- we could leave the signals out for a whole week, right, if you had a lot of trains just bogged down inside the signal suspension.

So I feel like, you know, this allows us the opportunity to restore the signal system in an expedited manner.

Q. What was the maximum authorized speed for a passenger train in this temporary signal suspension at restricted speed, what would have been the maximum authorized speed?
A. At restricted speed?
Q. At restricted speed.
A. So up to 15 miles an hour -- or 20 miles. We just recently changed that. Yeah, 20 miles an hour.
Q. Thank you, sir. What's the maximum speed for the passenger train operating under EC-1 authority?

A. Fifty-nine miles an hour in dark territory.
Q. Fifty-nine. Thank you.
MR. PAGE: I have no further questions at this time.
MR. HIPSKIND: Thank you, Ricky.
Steve?
MR. AMMONS: Yeah, Steve Ammons, CSX.
BY MR. AMMONS:
Q. Just one thing I wanted to clear up, Jason. You mentioned the signal suspension for Cayce and I think you said, Monday, Tuesday. Was this -- was that supposed to be a Saturday, Sunday?
A. Oh, shoot, yeah. Yeah, I'm so used to the Monday, Tuesday. Yeah.
Q. Yeah. So is it typical that we would have a signal suspension over the weekend like that, on a Saturday, Sunday? Is that pretty typical with you guys cutting so many over throughout the year?
A. So what we try to do is strategically schedule these to where we're not in conflict with other -- conflicting with other train operations or engineering work. I think in this instance we had some production work we were trying to avoid us being out there at the same time. So we moved it to Saturday to, you know, avoid overlap there.
Q. Is that common or uncommon that you would have it on Saturday or Sunday like that?
A. We will have tape loads every month on a Saturday. It's not

all of them, but it's not uncommon.

MR. AMMONS: I don't have any other questions.

MR. HIPSKIND: All right. Ricky, you still good to go?

MR. PAGE: No, I've got a couple more. Do you want to proceed first?

MR. HIPSKIND: Let me, let me jump in with a few.

MR. PAGE: Okay.

MR. HIPSKIND: And give you just a little bit of time to collect your thoughts there.

BY MR. HIPSKIND:

Q. I just want to go back with you, Jason, and just satisfy some curiosities I have. I know we kick around some of the -- when we talk about these subjects, about cutovers and people being out on the track and projects and different departments working together, we often at NTSB talk about -- we use terms like safety management systems, identifying risk, risk mitigation, all those kinds of things. And just to be honest with you, I'm trying to get up to speed with all that. And I know that in my 40-plus years, I never received any training on these kinds of concepts, safety management systems.

So let me just ask you, have you received any training on safety management systems?

A. Safety management systems, not really sure. I would say no in terms of that. I know we have a lot of training we go through, really around, you know, signal engineering practices, service

testing, operational, you know, safety. I know we go through our annual certifications and things, yearly. I'm not sure if you're talking about something more than that, but we do quite a bit of training every year for various things.

Q. No. You gave me the answer that I'm accustomed to, that is safety inherently part of railroad operations and working. I think we can all say, yes, and do employees and mangers receive safety training. But I just want to separate out that those kinds of things about the duties and responsibilities for the specific crafts is separate from maybe a training course that has to do with safety management systems and all the attendant jargon, terms and concepts. And it doesn't sound like you've had that in your career?

A. I mean, I'm not aware of it.

Q. Okay.

A. Yeah.

Q. Okay. So when -- but some of what, the dialogue we want to have with you today is this whole process of -- and that goes to a lot of the questions that Ricky was asking you; how do we spin up a signal suspension, what's inherent in the process? And I would ask you, what -- how would you characterize the level of input that you get when you identify, okay, Columbia South, Columbia Subdivision and we want to do a 23-mile signal suspension there?

What kind of input do you normally get, not only with that one, but just in general signal suspensions? Do you get input

from the field? Do people call and say, Jason, we've got this issue and that issue, and this particular cutover is different from the one we did last week because we've got this, this? And do you also get input from the operational people? Can you speak to some of that?

A. Yeah. So first is input from the field?

Q. Yes. And then input from the operation people.

A. Okay. Yeah, so every year, you know, we've got a look ahead on our projects. So, you know, right now I can tell you through the end of the year what we're projecting.

So when we get within like the window of that cutover, 65 days or so, you know, that's really where our engineers in the field, test engineers really start engaging with the field work, starting to prepare the project. They study, they'll look at the project. Their biggest focus initially is to make sure the design is proper, right? They spend the majority of their time really proofing the signal system and the design. And they get a little bit closer, they start thinking about now how do we manage this cutover. You know, we've got this suspension coming, you know, who do we need for resources, whether it be internal employees; in some instances we need external, you know, foreign railroads like Norfolk Southern. We cross them quite a bit. So they'll start planning some of those types of things.

So they really provide the first feedback to us when we start the process of approving to Transportation, on the amount of time

they think they'll need, any special request for curfews or specific things that may be out longer than others. You know, really our test engineer or our construction engineer would provide feedback and then we would take it to the Operating Department. So they've got a lot of input.

Then of course the Operations side, you know, they really kind of, you know, oversee all the operations on the railroad, so they take these requests from us and approve them. And then from there, they kind of take, you know, the briefings over with the train crews and the dispatchers and others that are really more on their side. So yeah, it's kind of, you know, we meet with them weekly to review these, the Operations Department.

Q. Okay. And here's where I'm going with this, that even though our terminology about, well, a signal suspension at Cayce, 23 miles, and the week before it was someplace else, and the week after it's going to be someplace else, although the process is somewhat the same, there are little nuances, little changes.

A. Sure.

Q. For example, the segment of track that you decide to complete your signal upgrade may have a different number of switches, correct?

A. Yeah.

Q. Different number of signals, highway crossings, hand-throw switches. It could be single track, it could be double track, and as you indicated, it may involve another railroad. So what I'm

trying to get at is, they're not just cookie cutter.

The overall goal of the project may be signal cutovers, signal suspensions for the installation of PTC, you do this segment this week, the next segment the next week, but there are differences and that's why I'm asking about the field input. Do you think it's sufficient, that you're being made aware of the differences of the different cutovers?

A. Absolutely. And I do agree with you. If you look at this block of signals here, you know, it's -- I'm not going to say, it -- you know, the scope is, could be vastly different than one we may do up in Buffalo Terminal, where we could have three tracks. You know, I know we've had some pretty big suspensions up north.

So there's definitely differences. And I think the input from the field, like I said, I think we're very fortunate with the engineers we have. We have them kind of strategically placed throughout the network and, you know, we count on their input when planning these cutovers.

Q. Okay. So not every signal cutover is the same?

A. No.

Q. Even though the goal on the upgrading may be -- that's ultimately what you're out there for in each and every one of the cutovers.

A. Yeah.

Q. Okay. And let's talk about the operations input. I get it about the field and how you guys are -- you need to know all those

things about how many miles, how many signals, how many hand-throw switches to properly staff and complete the work. So the first thing I want to get at is, you've had many signal cutovers, signal suspensions that were planned for 2 days, right?

A. Yes.

Q. And sometimes they're completed in a day and sometimes you go into the second day?

A. Yes.

Q. All right. When we talk about the input from the operations people, is there a pushback as -- do they ever come back and say, wow, you're going to do that on Saturday and we've got a tremendous amount of freight traffic that usually flows through there? Give us some view into that part of their input.

A. Yeah. So, you know, of course, this impacts their world quite a bit. You know, anytime you take a signal system like this down, and we're going to change it out, you know, that impacts them quite a bit. So they've got a lot of feedback.

I know there's instances where, you know, due to the peaks and the valleys with transportation -- you know, I know up on our northern area we'll actually move the cutovers to Sunday because that's a light day for train operations. And I know if we were out there on a Tuesday or Wednesday, we would have -- you know, we could have twice as many trains come through the limits. So we will -- Transportation gives us that feedback and we'll actually schedule them accordingly.

There are times, and I know we do this, you know, quite a bit, we actually have a Passenger Services Group that actually meet with Amtrak, and we will curfew trains, passenger trains coming through limits. And I know they do that quite a bit. But, you know, Transportation has a lot of say in how we plan these. You know, ultimately they really approve our plan that we've requested.

Q. Well, Jason, does it get down to -- if I was in your shoes and I was going to do a 20-mile segment, and operations came back to me and said, whoa, Saturday or Sunday, they're both bad days; we've got 50, 60 trains to run.

So, I mean -- and I know that doesn't happen in each and every cutover, in each and every environment. I get that. But when you're talking, when you're getting that feedback from operations, what is the allowance? What's the calculus for, oh, my God, they're going to continue running trains?

And so as a layman, I'm going to ask you this question, if they continue to run trains while you're trying to do your cutover, does that impede the progress? Does it -- is it not consequential? How do I think about that?

A. So, you know, I think, you know, just, if you took a look at just the general view around this process everywhere, I think moving trains through the limits like we do today actually keeps the work progressing. But, you know, at the end of the day, anytime there's a train in the limits, it slows the testing down.

So, you know, I'm a true believe that the way we do these helps us expedite the work and has allowed us to get a lot of the work done. You know, if we had trains bogged down in the limits operating at restricted speed or stopped, we would be a lot slower, we'd be out there a lot longer, and we would not have as much done as we've got done right now. That's my opinion. But you know, trains impact this work; they do.

Q. I don't want to put words in your mouth, but what you just said, I need to put a finer point on it. If every train through the limits of the signal suspension went at restricted speed?

A. Yeah.

Q. Okay. And let me just -- I want to clarify. An EC-1 to me is tantamount to a track warrant, a mandatory directive?

A. Yes. Yeah.

Q. Train crew calls the dispatcher. They have a conversation. They're filling out a prescribed form. And I think one of the points that Ricky was going to make is that when we're talking about an EC-1 or a track warrant, there are many different options that a dispatcher can exercise with the train crew. One being, I want you to go from A to B, the authority I'm giving you, at restricted speed, correct?

A. Yes.

Q. Okay. And the other thing I wanted to get in on the record, restricted speed, you answered the maximum authorized speed is 20 mile an hour. I'll grant you that. I believe that that's

correct. And -- but you've gone through a lot of safety training and operations testing and all that.

A. Yeah. There's more to it.

Q. There's more to it. And just want to enter that. I just want to get that -- another part of it is not to exceed 20 mile an hour, being able to stop within one-half range of your vision for misaligned switch, broken rail, blah, blah, blah. Right?

A. Back of train, yep.

Q. Okay. So, and that kind of supports your point about trains won't be going through a signal suspension at 20 mile an hour?

A. No.

Q. Inclement weather, fog, whatever, that could seriously disrupt some of your progress with the signal cutover?

A. Yeah.

Q. Okay. Do you ever get the -- when you hand this over and notify the operations people at CSX about 60 days ahead of time, do they ever give you any feedback about what they do with their coordination with other railroads, whether it be NS or a foreign railroad or Amtrak? Are you in that part of the loop?

A. So like I said, we meet with them every week. You know, these would be the superintendents and the general managers of, you know, of the railroad. And we talk through every one of these projects, including other engineering work.

Thirty days prior to the cutover, we actually send all the general bulletins out and it's sent out to everybody that's a

stakeholder, whether you be Transportation, Engineering, C&S, and then we actually have a conference call. So, you know, our superintendent's kind of responsible for the conference call, kind of planning the signal suspension. And they'll review the bulletins. We'll have trainmasters on there. So we do hear some of that, you know, what they plan to brief crews about or dispatchers about.

Q. Are the -- do you recall if the foreign railroads are ever part of those telecons?

A. Yes.

Q. Amtrak?

A. Now let me think about this. So our Passenger Service Group typically is, and they're actually our interface with Amtrak. But I can tell you I know we have the other Class 1 railroads on there at times. I know Norfolk Southern's been on ours before and the BNSF has. I don't recall if Amtrak, you know, actually has been.

Q. Well, but do you have confidence that if your passenger -- your CSX passenger people are on these calls, do you have confidence that they've had an outreach to Amtrak and are almost, in essence, speaking on their behalf or voicing their input?

A. Absolutely. I can just tell just in the engagement with them, I know they work with them hand-in-hand about these, you know, with these suspensions.

Q. Okay.

A. I've never been a part of that conversation with Amtrak, so I

can't speak to what they talk to them about, but, you know, I know we've got a team that's devoted to it.

MR. HIPSKIND: Jason, you've done a fine job. I've got most of my curiosities satisfied.

Ricky, do you have some other --

MR. PAGE: Just a couple more questions.

MR. SCHROEDER: Okay.

BY MR. PAGE:

Q. This particular temporary signal suspension at Cayce, in some of the interviews the Transportation Department wasn't aware of the technology of utilizing block indications. Can you talk about that? I mean --

A. You talking about on the dispatch screen or --

Q. Exactly.

A. Okay. During the signal suspension or after, you know, while we --

Q. During the signal suspension.

A. Yeah. So I know -- you know, if you think about it, this is kind of one of those items that, you know, during a suspension, the signal system's out of service, right? This is dark territory. And if you look at just this one cutover here, we actually had a TIS box on one of those track circuits, right? So I think, you know, with the TIS box it's never going to indicate to the dispatcher. So I don't think we can expect or we would want the dispatcher to use those indications, you know, to be able

to determine the state of things out on the railroad.

Just like you made that point here earlier about every cutover being different, this was one specific scenario where if you looked at it, you had certain things set up. But there are other ones where we may have track lights on through the duration. It's really depending on whether you single-ended it here or here, and, you know, where that was within the suspension limits. So I don't think we could use those indications during a signal suspension for any kind of information between what's going on in the field and the dispatcher.

Now, of course, our field service test engineers which are involved in all the field work, they know the state of every one of these circuits out there. And they use these today during testing but, you know, Transportation, from their standpoint, it's not functioning.

Q. And just for the record, a TIS box is a piece of equipment that simulates a code going into a track, electronic track circuit?

A. That's correct.

MR. PAGE: All right. I've got no further questions.

MR. HIPSKIND: Jason, this is Dick Hipskind. Let me just follow up.

BY MR. HIPSKIND:

Q. I've been curious, and I know that we came down here shortly after the accident and we wanted to look at the dispatcher's

board. So again, from a layman's perspective, I get it. When you've got that many people out there, spread over the 40 -- the 23 miles, a lot of people, a lot of talk on the radios, a lot of activity going on in the bungalows, wayside, observing signal. I get that picture.

But I want to distinguish between when you have all those people out there and they're actively engaged in taking components out, putting components in, messing around with the wires, observing the signals, I call that the active signal suspension. What time did they start that morning and before they stopped, to me that is the active part of the signal suspension.

When the head guy in the field says, I don't want to turn the signal system back on; maybe we've got to check hand-throw switches, maybe there's more I want to do to make sure that this entire thing is complete, and he makes that call. And he says, it's 7 o'clock, it's Saturday; we can't get this done, we're going to go home. And I'm -- I don't know that he said that, but in a situation like that, he gives the signal system -- they stop doing their stuff, okay? And is that still a signal -- is that still an active signal suspension?

A. Yes. So the signal suspension from when we start to where it's ready to go back in service is in place. I know -- you know, if you think about this instant, this instant we've got the same risk whether it's an hour into the cutover with signal people out there or, you know, 15 hours later, there's really no difference.

The only -- you know, you think about the signal suspension. We set it up, Transportation's operating through there based on operation rules. At the same time, C&S is doing testing. They're kind of separate items. So, you know, we had this risk an hour into the cutover.

Q. Well, that's an interesting comment. I don't believe I've thought about this, but let me just run this question by you. I mean, if the local had been out there at a different time, guaranteed this -- a different day. I'm changing things about the accident, but there's a point to it.

So it's Saturday, it's about noon, and the local's out there, and we get into this same setup of going in and out of hand-throw switches and derails and stuff like that, and they call in and say it's restored but it's not. We could have had that same accident if a train was going through there?

A. Yes.

Q. Okay. That's news to me. Thank you for that. That helps me understand this a lot clearer.

MR. HIPSKIND: I think that's all I've got.

Ricky, go ahead.

BY MR. PAGE:

Q. Page again. You talked about cutovers with other railroads, especially up north where you've got multiple tracks and multiple switches. In your opinion, what is the size of this cutover? Was this a small cutover or a medium cutover or --

A. This was probably a -- from a -- I think it's probably, you know, in the middle of the road. I'm not going to say it was small. Small is like a siding, right?
Q. Okay.
A. So I know we had two sidings here, so this is about medium size, probably average for us.
Q. So I'm going from memory. We had three control points; is that correct? Four control points?
A. Yeah, four. Four, two sides.
Q. Four control points?
A. Yeah.
Q. And in part of your signal testing you're running routes to ensure that there is no opposing or conflicting route can display a permissive aspect; is that correct?
A. That's correct.
Q. Each switch has four routes; is that correct?
A. Yes, for an end of siding.
Q. Right.
A. In this instance, yes.
Q. All right. So we had four -- we had two ends of one siding, another end at north end of Cayce Yard, right? So that was about 12 routes, and then the normal route through the block. So give or take 15 or 16 routes. Is that about right?
A. Let's see here. We actually had five control points and then a holdout.

Q. Okay.
A. So -- and then there were some intermediates in there as well. So it's probably a little bit more than that.
Q. So as you said, it's a medium cutover?
A. Yeah.
Q. Would you normally suspend, have a 2-day cutover for that type of --
A. For this scope, right here, I think with the highway crossings involved and, you know, really talking to our field folks and really the plan here, you know, we felt like we needed to request the 2 days. So like I said, we planned it for Saturday, February 3rd, and it was planned to end on Sunday, February 4th. That's what we had actually requested. So that's in line with, you know, what we would have done in other areas on the railroad.
Q. Okay.
A. So --
MR. PAGE: Well, that ends my questioning.
MR. HIPSKIND: Okay. Thank you, Ricky.
I think we've about covered it.
Steve, any thing else?
MR. AMMONS: Yeah. No, I did have just a small -- a few questions there around signal suspension planning.
BY MR. AMMONS:
Q. You mentioned that you had 115 in 2017, PTC cutover?

A. They wouldn't all be PTC. That's everything.
Q. That's everything?
A. Across the board.
Q. Oh, okay.
A. Yeah. So --
Q. All right. So that -- all right. So what about 2018? Any idea what that number is?
A. In 2018, we're going to be at a similar number. Right now we're projecting around 119.
Q. So out of 119, how many of those would be like PTC cutovers?
A. I'm thinking 75 percent of them are.
Q. Can you talk about the other types of signal suspensions that wouldn't be involved in that? What are they for or what --
A. Okay. So like an example, you know, we just had one here on Sunday. It was up in Richmond. We're actually building some bypass tracks around Richmond to improve some fluidity for Amtrak and our train operations to where they don't have to, you know, go so slow through the yard. So that project actually had a bunch of track work, you know, and signal work. So we basically had a big capital project. So there are three cutovers associated with that and we just got through the second one. So, you know, an example would be major, you know, capacity improvements, siding extensions, connection track additions. In this instance it was a bypass project.
There are other projects that we actually work on just from a

C&S standpoint for reliability. It could be a subdivision off the PTC footprint where we may have reliability issue with de-energized code of track or something that's kind of really, you know, a legacy type signal system. We'll go upgrade those using, you know, capital.

So that's really, you know, the others. So if you think about this, back in '09 we had 32 cutovers, right, and that's what they would have been, capacity projects and signal reliability projects. So that addition has really been PTC.

MR. AMMONS: So I want to make just a brief statement that leads into a question, if Dick will allow me.

MR. HIPSKIND: Yeah. Please go ahead.

BY MR. AMMONS:

Q. So I'm sure it's nearly impossible if not impossible to plan for the unplanned signal suspension, like Mother Nature type of events, right. How many of those occur? How often do those occur, these unplanned events where, you know, you have floods, hurricanes, things like that, that knock out signal systems?

A. We actually had -- you know, I know it's not every year. We had one last year, right, you know, towards the end of the season. So I'm not going to say it's uncommon, but it's not something that we do like multiple times a year. I think we had, you know, one or two last year during the hurricane that came through Florida.

Q. So with that, with the PTC cutovers and the other types of signal suspensions including the ones created by Mother Nature, as

far as you know, CSX always uses the same method of operations through these signal suspensions or with their train dispatchers and their crews?

A. That's correct.

Q. Do you think it's a good idea to have just one method to operate in like that?

A. I think so. I mean, if you looked at the history, you know, like I said, we've been doing this long before me, and you know, we've been pretty successful. I know this -- you know, looking at this in hindsight, you would -- you know, you wish we had a different outcome. But I feel like this has allowed us to get a lot of work done in a very disciplined process that's really documented. All of our employees understand it and know about these now.

Q. All right. Any idea the percentage of signaled territory we have on CSX versus dark territory?

A. Yeah, so --

Q. Main track.

A. Yeah, I know we've got -- I don't know about the percentage, but we've got quite a bit of dark territory. I know we were trying to do a count of this hear late last year for a score card, and I know we had calculated pretty close to 6,000 miles. I don't know if that's accurate or not, but I know we got quite a bit.

So we're -- you know, from a PTC footprint standpoint, we've got 13,000 miles of PTC that we'll have installed here, you know,

with the implementation.
Q. But that includes dark territory, as well?
A. Yeah, it includes some dark territory, yeah.
MR. AMMONS: Okay. That's all I've got.
MR. HIPSKIND: Okay. Thanks, Steve.
Ricky, any --
MR. PAGE: No more questions.
MR. HIPSKIND: You're in a good, you're in a good spot?
Ms. O'Brien --
MS. O'BRIEN: I actually have some --
MR. HIPSKIND: -- I have not forgot you. Would you like to speak to any kind of a clarification or anything?
MS. O'BRIEN: Yeah, it's just a clarification to make sure I understood correctly.
BY MS. O'BRIEN:
Q. Jason, when Mr. Hipskind was asking you about safety training and he used the term safety management systems, and asked you about CSX --
A. Um-hum.
Q. Is that a term that you've heard before that we use at CSX?
A. No. I know we use risk management quite a bit and -- but, you know, I think the term probably -- I've not heard that like that, no.
MS. OBRIEN: Okay. I just wanted to be sure. Thanks.
MR. HIPSKIND: Well, anything else, Erin?

MS. O'BRIEN: I'm good. Thank you.

MR. HIPSKIND: Well, thank you for bringing that up.

BY MR. HIPSKIND:

Q. And now that I've heard your answer, can you elaborate on that because often we talk past each other and I use terminology that -- and Erin's right, if that's not something you're -- speak to us about risk management training and how that is applied or incorporated in the work you do.

A Okay. Well, I think, you know, there's -- you know, anytime you work on a safety-critical signal system like we've got here, there's risk working around it, whether you're doing design, you're working in the field doing construction, maintenance or testing. And, you know, if you look at our process on the way we approach signal suspensions, at least from a C&S standpoint, we've put a lot of time and effort into reducing the durations of our cutovers. We revised processes, procedures, actually did some benchmarking with some other railroads to kind of really lean that out. And, you know, I actually was fortunate enough here several years ago to actually participate in a business leadership program that talked about improving efficiencies and really the benefits of putting efficiencies into your process.

And in this instance, you know, really, you know, we were able to come back and work some of these things in and actually reduced our durations by almost 50 percent from where they used to be many years ago. And, you know, we talk a lot about these with

our signal employees in the field. There's risk with these, right. And really the work that we do really mitigates -- you know, by keeping these things as short as possible, mitigates a lot of risk, not only for the train operations but for our own C&S employees that are out there working these long days throughout a week.

So, you know, 4 or 5 years ago, it would not be uncommon for us to have a 3, 4-day cutover, right? And really the majority of our projects are done in the first day with a handful of them going into the second day. So, you know, I know we've come a long way. We've spent a lot of time with this.

Q. Would you say in the evolution of your railroad's experience with cutovers, how important of a role does communication, coordination and cooperation play in all of that?

A. Well, it's a -- I think that's a primary factor in actually making these go well. That is one thing I feel like, you know, with our Operating Department, you know, we do well with. I mean, we actually, you know, meet with them weekly. And, you know, a lot of these guys know our test engineers, you know, on first-name basis and actually as things are being planned and as things are changing, you know, they talk quite a bit. So it's absolutely critical.

MR. HIPSKIND: Okay. I'm good. I don't know if any of that conversation we just had generated any other questions, but if not, I'll proceed to close out with your permission.

MR. SCHROEDER: All right.

BY MR. HIPSKIND:

Q. Okay, Jason, is there anything that you would like to add or change to some of the discussion we've had this morning?

A. No.

Q. Okay. Are there any questions we should have asked but did not?

MR. HIPSKIND: And thank you, Ms. O'Brien, I think you did open up an important discussion.

BY MR. HIPSKIND:

Q. Anything else?

A. No.

Q. And do you have any suggestions for preventing a reoccurrence?

A. You know, I think, you know, the one things we've talked about internally and I know -- you know, I've even as much as just a week ago talked to the FRA about, was really thinking about the 12 hours, you know, really having a hard line on that. If we have just a little bit more flexibility with that, you know, I think some of these projects where we're close, we could, you know, we could get it done in an expedited manner.

You know, I know with PTC and all of these projects, in many instances we've got three or four cutovers going on at one time. You know, and if you looked back at last year and you looked at our Southern Region, all in the same area, for the most part, on

our southern property. So, you know, we've -- I think if we had a little bit more flexibility with that, just an understanding, hey, you know, maybe going up to the 16 hours, we actually could mitigate some of these things in the future.

Q. Is that an ongoing dialogue with them then?

A. It was pretty much --

Q. A no?

A. No.

Q. I kind of thought that.

A. Yeah.

Q. Okay. And you are aware of the 12-page safety advisory that they put out?

A. Yes.

Q. Do you have any comment that you'd like to add at this time about that?

A. I know we're reviewing it. I think the third item in there about a best practice, I kind of wonder, you know, how having a Signal Department employee help with the operation of the switch actually makes things any better. We've got the same risk when we operate switches, you know, as a BRS employee, same risk as a train crew. So I'm not sure how that provides an -- you know, a little more safety to it.

But, you know, we're reviewing it. I don't know if it's something that, you know, we won't be able to do or we can do yet. So we haven't looked at it like that yet.

Q. That is an interesting comment and I would just reply with, the English language can be interpreted many different ways. And I will tell you that, I thought -- the way I took it was, that having a signal person there shadowing, like that local crew or something like that, that they not only would ensure that there was proper alignment but that they could contact over the radio and say, okay, we've restored this switch; how does it look? That's the way I took it.

A. Okay.

Q. So different people can look at that.

Okay. Anything else you'd want to comment on the safety advisory, other than you guys are reviewing it and thinking up a plan?

A. Yes.

Q. Okay. Is there anyone else who we should interview? And you're aware we're going to talk to Mr. Carl Walker?

A. Yes. Yep. No, I know you spent quite a bit of time with our folks in the field. From our department's standpoint, I don't know of anybody else.

MR. HIPSKIND: Okay. If there isn't anything else, we will conclude the interview. Thank you very much.

MR. SCHROEDER: All right. Yep.

MR. HIPSKIND: Thank you very much, Jason.

MR. PAGE: The time is 9:22 a.m.

(Whereupon, at 9:22 a.m., the interview was concluded.)

CERTIFICATE

This is to certify that the attached proceeding before the

NATIONAL TRANSPORTATION SAFETY BOARD

IN THE MATTER OF:	COLLISION OF AMTRAK TRAIN #91 AND A STATIONARY CSX TRANSPORTATION TRAIN NEAR CAYCE, SOUTH CAROLINA FEBRUARY 4, 2018 Interview of Jason Schroeder
ACCIDENT NO.:	RRD18MR003
PLACE:	Jacksonville, Florida
DATE:	April 26, 2018

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.

Romona Phillips
Transcriber