

**TESTIMONY OF
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WASHINGTON, DC 20002**

**BEFORE THE COMMITTEE ON
TRANSPORTATION AND INFRASTRUCTURE**

**HEARING ON
“OVERSIGHT OF THE AMTRAK ACCIDENT IN
PHILADELPHIA”**

TUESDAY, JUNE 2, 2015

10:00 A.M.

2167 RAYBURN HOUSE OFFICE BUILDING

Mr. Chairman, Ranking Member, and Members of the Committee, good morning, and thank you for the invitation to testify before you today.

I wish I that different circumstances had brought us here today, but since they did not, I must start by offering my heartfelt regret for the recent derailment at Frankford Junction. It was Amtrak's train on our railroad, and we are responsible for the incident and its consequences. I regret it deeply, and if the conversations I have had over the last week are anything to go by, I think that sentiment is shared by everyone in our company. Everything we have done since has been driven by the sincere hope that we could do something, however small, to mitigate the suffering and loss that everyone has endured as a result of this terrible accident. We have been greatly helped in that effort by the people of Philadelphia, and I would like to thank all of them, but particularly Mayor Nutter, the police, the fire and EMS services, and the staffs of the hospitals who received and treated the injured. Thank you for everything you did on behalf of our passengers and employees.

I should also take this opportunity to note that we want to do everything we can to support the NTSB's investigation. I am confident that the Safety Board will investigate this matter thoroughly. I will refrain from addressing matters that are still under investigation. We will be working closely with both the NTSB and our regulators at the FRA to ensure that we address the root causes of this accident. We will do this because Amtrak is a passenger railroad, and we understand that safety must continue to be our highest priority. I know what a

tremendous trust the public places in us, and we will do everything we can to prove that we're worthy of that trust.

At Amtrak, we are committed to safety and we operate a safe railroad. The Northeast Corridor in particular has an excellent safety record, and this accident is so shocking because it's so unexpected. People have come to accept that the NEC will deliver them safely to their destination, because we have such a good record of doing so. Our last fatal accident on the NEC occurred 28 years ago, and since that time, Amtrak trains operated by Amtrak-trained crews have carried millions of people in safety. We have redundant systems designed and built into everything, and they protect every movement – but at the end of the day, it is people who operate these trains, and people make mistakes. For 28 years, we have operated safely, without an accident-related passenger fatality, and we are now incorporating the lessons of this tragic failure.

The NEC's safety systems are the best in the country. In no other place is a comparable volume of traffic moved with such a solid record. In addition to a thorough training, oversight and coaching system for our crews, we have a layered signal system that provides trains with multiple levels of protection.

There is a trackside signal system to warn crews of the presence of trains, so that the danger of collision is minimized. There is an alerter system to ensure that engineers are awake and attentive, and to stop the train if they are not. There is a cab signal system to ensure they

receive the appropriate signal warnings, regardless of the time of day or the weather. There is an automatic train control system (ATC), to ensure compliance with (and acknowledgement of) the signals, and to stop the train if the crews fail to acknowledge or comply. Finally, in places, there is a system called the Advanced Civil Speed Enforcement System (ACSES), Amtrak's Positive Train Control (PTC) system to ensure that engineers maintain the appropriate speed limits, and to stop the train if they fail to comply with the speed limits. That is in service from New Haven to Boston and at points between Washington and New York where trains exceed 125mph, and it has been installed on the rest of the Amtrak owned and operated NEC and should be operational in time to comply with the Federal statutory mandate of Dec 31, 2015. No other Class I railroad in the United States is as far along in installing PTC as Amtrak is.

These systems exist to backstop the engineers and train crews who are ultimately responsible for safe movement of our trains. Our engineers and conductors are required to pass an extensive training program, reviewed and approved by the FRA, which is designed to equip crews with the necessary skills, experience, knowledge, and outlook to operate a train successfully. Crews are expected to develop a very high level of familiarity with the route, and to know where they are at all times and under all conditions – including bad weather and the hours of darkness. Probably millions of train movements – not just Amtrak, but SEPTA services – have negotiated the curve at Frankford Junction safely since Amtrak took over the NEC in 1976. Our system is predicated on a program that develops competent operating personnel through a lengthy process that combines on-the-job practice with classroom instruction, and backs the people up with a solid system of multi-layered safeguards.

It works because, generally speaking, we have put together a safety system that weaves a tight net – or even a series of layered nets – with each layer guarding against the possibility of a failure that the previous layers don't catch. Nothing is impossible, but we try to guard against the full range of contingencies. We rely on these layered and redundant systems, but there's one thing that we have never been able to completely overcome, and that is the risk of human error. There is always a risk of a gap in even the most tightly woven net.

The Train 188 derailment revealed one such hole in our safety net, and in the weeks since the derailment, many people have raised a seemingly simple question: why didn't the track where the accident occurred have some kind of safety feature installed, to trip the signals and force the engineer to slow the train?

This is the right question to ask, and I am going to address it directly today while first providing you the necessary background information to understand the answer.

In 1990, an Amtrak train derailed on a sharp curve at Back Bay Station in Boston, and collided with an oncoming MBTA train. That derailment was caused by an engineer failing to slow a train before a curve. Shortly thereafter, industry regulators and operators reviewed the NEC and looked for other places where the approach speed of a train was greater than speed at which the train might derail in the curve—in other words, where a train could derail if an engineer failed to slow it down. At those points we used a modification to the ATC system to

install a “code change point” to force engineers to slow down in advance of the curve. The southbound tracks at Frankford Junction were one such place. The derailment speed at Frankford Junction is 98mph. Northbound trains approach that curve at 80 mph, while southbound trains approach at 110mph. So in short, when a train approaches from one direction but doesn’t slow down, there is no risk of derailment; but if when a train comes from the other direction and doesn’t slow down—for whatever reason—there *is* a risk of derailment. Thus, we applied the modification to the southbound tracks so that the trains approaching from the north at speeds of 110mph would receive a signal indication in the cab just before the curve, forcing them to slow to 45 mph so that they could pass through the curve safely at 50mph. The northbound track did not have the same protection installed, because the approach speed was 80mph, which was slow enough that a train could round the curve at that speed without derailing if the engineer failed to slow down. At that time, the notion that an engineer might actually *accelerate* into the northbound curve was not a circumstance we anticipated, and thus we didn’t mitigate for it.

It was a reasonable decision reached by reasonable experts under reasonable circumstances. And since this and similar code change points were installed in 1991, the application of this policy successfully prevented overspeed derailments throughout the NEC for about twenty-five years. That clearly changed on May 12. The proper response now is for us to figure out what happened, and to narrow or eliminate the gap so that this accident cannot happen again. We know that the full implementation of ACSES later this year will be a major step forward in this regard. Until it is fully in service, we are taking several steps to ensure the safety of our trains and passengers.

Immediately after the Train 188 accident, we installed a code change point on the south side of Frankford Junction, to ensure that trains cannot enter the curve at speeds above 45 mph, just as they do from the other direction. We are now looking across the NEC for other spots where a similar vulnerability might exist, and we will take the same action at those points, pending the introduction of ACSES, to ensure that we close any windows of vulnerability that may exist. Most importantly, we are doing everything we can do to hasten the installation of ACSES across the NEC. As I noted, it is today in operation on the entire North End of the NEC between New Haven and Boston, but installation on the South End is not yet complete. The law requires us to complete our installation prior to December 31, 2015, and we will push the work to ensure that the system is fully – and safely – operational as soon as possible. In the meantime, we are reviewing our system to look at curves to ensure that we are doing everything we can to be sure we're making adequate provisions for the safety of the public. We are talking to our train crews, to ensure that everyone is fully focused on safe operations. Managers are out keeping an eye on operations. People at every level are looking out to ensure that our operations are safe and reliable in the coming weeks and months. We will also be installing inward-facing video cameras in our locomotive fleet, to allow for more effective oversight and monitoring of crew performance and provide a better record of engineer actions and communications.

The most important thing we can do to improve safety is to complete the work of installing PTC on the NEC. We were the first railroad to implement PTC in America, and we're still far ahead of the rest of the industry. My belief in the importance of PTC predates my arrival

at Amtrak. As the Federal Railroad Administrator, I worked hard to secure the passage of the law requiring PTC installation on the railroads. I still believe that the single greatest contribution that my generation of railroaders can make to the industry is to implement PTC as rapidly as possible. We at Amtrak are working to do that, and we're fortunate to have some of the nation's leading experts on PTC leading the process. I have confidence in them, and in our company – and I promise you that by the end of the year, this system, which will dramatically enhance safety, will be complete and in operation on the NEC.