**TESTIMONY OF**

**DJ STADTLER**

**VICE PRESIDENT OF OPERATIONS**

**AMTRAK**

**BEFORE THE**

**SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION**

**HEARING ON**

**"PASSENGER RAIL SAFETY: ACCIDENT PREVENTION AND ON-GOING EFFORTS TO IMPLEMENT TRAIN CONTROL TECHNOLOGY'**

**WEDNESDAY, JUNE 10, 2015**

**10:00 A.M.**

**253 RUSSELL SENATE OFFICE BUILDING**

Good morning, and thanks very much for the invitation to testify on behalf of the men and women of Amtrak and our CEO, Mr. Boardman. Amtrak has played a prominent role in the development of Positive Train Control (PTC), and in partnership with industry, we developed two of the first three systems approved by the FRA for operation in the U.S. Our Advanced Civil Speed Enforcement System (ACSES), introduced in 2000, is the only PTC system approved by FRA for 150mph operation. The Incremental Train Control System (ITCS), currently in service on the 97 mile Amtrak-owned segment of our Michigan Line between Porter and Kalamazoo was the third such system to be approved, and is the only system other than ACSES currently approved for operation at speeds in excess of 90 mph.

The type of PTC system installed on any given rail line segment is determined by the owning railroad, which installs the necessary wayside equipment such as radios, transponders, or wayside interface units, as well as the radio and server networks, which tie in to the existing dispatching system. Amtrak owns relatively little of the infrastructure we operate over – about 97% of our route mileage is owned by host railroads. Thus, while Amtrak uses ACSES and ITCS on its own territory, when operating on host railroads Amtrak's onboard PTC equipment must be compatible with the wayside PTC system used by the host. Interoperable Electronic Train Management System (I-ETMS) is used by essentially all of Amtrak's host railroads, so Amtrak's diesel fleet will be equipped with I-ETMS for operation on host rails by the mandatory deadline. Amtrak plans to install I-ETMS on certain Amtrak-owned trackage such as Chicago Union Station, where our tracks connect with host railroad-owned lines.

The owning railroad is legally responsible for PTC installation, but the Kansas City Terminal (KCT) and Terminal Railroad Association of St Louis (TRRA) deserve mention, because questions about the cost of PTC will likely affect passenger service. As Class III railroads, KCT and TRRA are exempt from the PTC installation requirement, except if a line is used by passenger trains. Both KCT and TRRA are owned by Class I railroads. This distinction is important, because even though they handle significant quantities of hazardous material and PTC would be required if they were considered Class I; because they're considered Class III, the PTC requirement is triggered by the operation of passenger trains. These hosts have maintained that because Amtrak's trains trigger the PTC requirement, Amtrak is responsible for the cost of PTC installation, which amounts in the case of KCT to $30 million. Because Amtrak cannot afford this, and neither can the state of Missouri, we have notified KCT that Amtrak service over KCT territory will terminate by the end of the year unless an alternative is found. We do not wish to cease service, but if this issue is not resolved soon, it could end in either the rerouting or termination of the *Southwest Chief* and the *River Runner*.

PTC systems typically enforce both speed restrictions and stops at signals. ACSES has an extra degree of redundancy for enforcing stops at interlocking signals, and the speed regulation is based on transponders installed in the track, a necessary feature for the level of reliability needed at very high speeds. Because the Michigan Line for which ITCS was developed has many grade crossings, ITCS includes a feature to activate gates and flashers early in advance of high speed trains, to provide a better margin of safety. Both ACSES and ITCS are "overlay" systems, which work in conjunction with the existing signal system and provide an

additional level of protection. The base for both is a conventional railroad automatic block signal (ABS) system, which is what is installed on the vast majority of the freight railroad-owned lines over which Amtrak operates. ABS signals tell an engineer whether to proceed at full speed or restricted speed, or to stop, but it does not incorporate any enforcement mechanism or speed control. ACSES, on the other hand, works in conjunction with the existing (Automatic Train Control) ATC system which is already in service on the NEC, and enforces stop indications at signals. ITCS has to provide some of the features that ATC provides, since it is designed to work with systems that don't already provide signal enforcement, which our NEC ATC system does. ITCS is designed to operate those crossings in advance of a train arrival because the basic signal system on the Michigan Line, powered by circuits in the tracks, is built on a physical infrastructure spaced for slower trains. ITCS is approved by FRA for 110mph operations.

PTC installation is currently complete on the Amtrak-controlled segments of the NEC, although it is operational only in certain segments. By December 2015, ACSES will be in operation throughout the NEC sections Amtrak operates and maintains. There will, however, be a 56 mile gap on the segment owned by the states of New York and Connecticut, and maintained and operated by Metro-North Railroad; there is also a small gap in Queens, New York at Harold Interlocking, which is owned and maintained by the Long Island Rail Road. We are working with the state of Michigan, which owns the Michigan Line segment between Kalamazoo and Dearborn that adjoins the Amtrak-owned segment, to complete ITCS installation there. That ITCS installation will probably be operated and maintained by Amtrak under contract, but the state is responsible for the cost of installation, since it owns the railroad.

One issue that has slowed the implementation of ACSES on the Northeast Corridor has been the matter of radio spectrum acquisition. ACSES currently operates with radios in the 900MHz bandwidth, but our experience (and rail industry consensus) suggested that we needed to migrate to a bandwidth in the 220MHz range. Amtrak attempted to purchase the necessary bandwidth on the open market, but the acquisition proved to be a challenging and time consuming process, and our several requests to the FCC for a bandwidth allocation out of its inventory were not accepted. After five years of procurement efforts, we were able to complete the necessary commercial transactions to purchase spectrum on the open market. We have been testing our system on the North End for many months and we sought Special Temporary Authority from the FCC to test on the South End, which we received on May 29. With that authority, Amtrak can test all of its wayside base stations from DC to New York at their full designated power to be sure that they communicate appropriately with the trains along the entire south end (New York to Washington), and then to assure that the data that needs to be passed between the trains and the wayside computers will also work without causing interference to any nearby household television reception. Once that testing demonstrates that our system settings are appropriate we can go into full operation on all equipped trains on the NEC.