

**TESTIMONY OF MR. RUSSELL KERWIN**  
**DEPUTY PROJECT MANAGER OF POSITIVE TRAIN CONTROL**  
**SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY**  
**(METROLINK)**

**SUBCOMMITTEE ON RAILROADS, PIPELINES AND HAZARDOUS**  
**MATERIALS**

**HOUSE TRANSPORTATION AND INFRASTRUCTURE COMMITTEE**

**HEARING ON “THE STATE OF POSITIVE TRAIN CONTROL**  
**IMPLEMENTATION IN THE UNITED STATES”**

**June 24, 2015**

---

This statement is offered on behalf of the Southern California Regional Rail Authority, known as Metrolink. We want to offer our written sentiments regarding Positive Train Control (PTC) implementation and appreciate the opportunity to share our perspective and experience.

Metrolink is happy to report that we have PTC currently in Revenue Service Demonstration (RSD) across our entire 341-mile network of Metrolink-owned lines and we intend to be in compliance by the end of the year. We are extremely proud of this accomplishment. Further detail on this milestone is described in this testimony.

**Metrolink – A Brief Picture**

Metrolink is governed by a Joint Powers Authority comprised of an 11-member Board representing the transportation commissions of Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties. Metrolink is the second largest commuter rail system by size and fifth largest by ridership in the United States, serving close to 20 million people working and living in Southern California.

The scope of Metrolink’s daily operations includes trains that traverse 512-route miles in six Southern California counties. We transport nearly 1 million passengers a month throughout our network. In addition to operating 165 daily trains, Metrolink provides dispatching services to two freight railroads, Burlington Northern Santa Fe (BNSF) and the Union Pacific Railroad (UPRR), and three passenger rail services, Amtrak, Coaster, and Metrolink over one of the most complex multi-modal rail systems in the United

States. This includes select freight traffic coming out of the ports of Long Beach and Los Angeles, two of the busiest ports in the nation.

### **Chatsworth Legacy**

On September 12, 2008, a tragic event occurred in Chatsworth, California where a Metrolink train traveling north towards Ventura collided into a Union Pacific freight train. The incident resulted in 25 fatalities and 135 injured. After an investigation by the National Transportation Safety Board, it was found that this accident could have been prevented with PTC. With the understanding of the importance of this life-saving technology, Metrolink has fully embraced and engaged in the implementation of PTC on our rail network in Southern California.

### **Background**

PTC on Metrolink's system is a locomotive centric, GPS-based safety technology designed to prevent train-to-train collisions, over-speed derailments, unauthorized incursion into work zones, train movement through switches left in the wrong position, as well as accidents caused by the running of a red light. PTC monitors and, if necessary, controls train movement in the event of human error.

In October 2010, Metrolink contracted with Parsons Transportation Group (Parsons), along with its key industry vendors such as Wabtec, to design, install and test the agency's PTC system. Metrolink's PTC program is an overlay system based upon the Rung 1 Interoperable Electronic Train Management System (I-ETMS)<sup>®</sup> software and meets the requirements of the Interoperable Train Control Committee (ITC), allowing the railroads operating in Southern California to share in the safety benefits of this critical system. The PTC program includes back-office components such as a PTC back office server (BOS) and a new PTC-compatible computer-aided dispatch (CAD) system. The program also includes installation of PTC equipment on all 57 cab cars and 52 locomotives in the Metrolink fleet, PTC interface devices at 476 locations, including 104 control points, and extensive equipping and testing of the wayside and communication network. A six-county specialized communication network to link the wayside signals, trains, and centralized dispatch office was built to support the communication intensive PTC System.

The Metrolink system operates seven routes providing 165 weekday commuter trains on more than 225 host territory route miles and 341 track miles through six counties in Southern California and carries over 43,000 weekday riders. The Metrolink Operations Center serves as the dispatching hub for our trains as well as all trains, which traverse Metrolink property. The total number of trains dispatched on a daily basis exceeds 350.

### **PTC on the Metrolink System**

We are proud to report that as of June 14, Metrolink has implemented PTC in RSD across the entire 341-mile network of Metrolink-owned lines to meet the current deadline in the

Rail Safety Improvement Act of 2008 of December 31, 2015. We will continue to work with others to get full system implementation.

Full build-out and testing of Metrolink's PTC infrastructure was completed over the past five years, including PTC onboard equipment installed and tested on all 109 locomotives and cab cars; all antennas, wayside interface units, and PTC radios are installed and operational; a robust communication network is installed; and a new hardened Dispatch and Operations Center (DOC) was constructed and is now operational.

In addition to our network of owned lines, we are working closely with our railroad partners – BNSF, UPRR, Amtrak and North County Transit District – to ensure PTC implementation is achieved throughout the region. A timeline of implementation is attached (Attachment A).

### **PTC Safety Plan**

We are committed to submitting our Safety Plan (a nearly 7,000-page document) to the Federal Railroad Administration (FRA) by June 30 and are seeking certification by December 2015. BNSF, our freight partner, has been an industry leader and was the first to submit a final PTC Safety Plan to the FRA in 2014. BNSF was very helpful in the development of our Safety Plan and we are hopeful their assistance combined with other input will expedite the FRA review process to be as efficient as possible.

We have been very fortunate to have a great deal of support from our local freight partners as well as other freight railroads nationwide through participation in the ITC that have helped make our PTC program possible in our region.

### **Funding PTC**

Our current PTC program cost is \$216.4 million dollars. The majority of that funding, about 85 percent, was from state and local sources. The federal funds that we received came from the Federal Transit Administration (FTA) and FRA. These funds include: \$17.8 million from American Reinvestment and Recovery Act formula funds, \$6.6 million from an FRA technology grant, \$3.4 million of a \$13.5 million grant from FRA High Speed Intercity Passenger Rail (HSIPR), and \$4.1 million in pass-through FTA funds from our member agencies. The \$216.4 million budget does not include construction of the PTC-related Communications Backhaul Program, PTC implementation on new line segments, or on-going PTC operating costs. A full breakdown of funding for our PTC program is attached (Attachment B). We are now in the process of ramping down our capital funded implementation program and transitioning the operation, maintenance, and ongoing support of the PTC system. The operation and maintenance costs are expected to range between \$4-8 million per year going forward.

### **PTC Implementation Challenges**

There have been a number of challenges that have affected our implementation of PTC. Despite aggressive efforts by the contractor and the agency and our strong partnerships with freight rail and Amtrak, our schedule for implementation of PTC has been impacted. Thanks to the support of our rail partners and contractors, Metrolink has found workaround strategies and managed to proceed with its aggressive implementation timeline.

### **New Technology Development Challenges**

Delays in the nationwide-wide development of interoperable PTC specifications, processes, agreements, and hardware and software systems have significantly impacted Metrolink's schedule and budget for PTC deployment. Specifically, Metrolink was engaged in a prolonged development process with vendors for its back office server, PTC-compatible dispatch system, onboard locomotive hardware, PTC communication and messaging systems, and many other PTC components. Throughout the process, Metrolink had to overcome numerous development and testing challenges, including the development of license agreements and other commercial arrangements for the new systems. Although these challenges are largely overcome at this point, on-going software updates and testing are expected as this technology and the industry's utilization of it continues to evolve.

### **Spectrum Challenges**

In regards to spectrum acquisition, Metrolink has been working with the Federal Communications Commission (FCC) through many challenges to secure approval of the spectrum that Metrolink entered into a purchase agreement for in 2010. Similar to the overall PTC system, the use of the acquired spectrum must be carefully planned and coordinated with other railroads to ensure that any spectrum acquired can support interoperability. While there have been delays at the FCC in the processing of Metrolink's applications, Metrolink is now trying to follow the procedures under which the FCC's Wireless Telecommunications Bureau recently granted Amtrak's application. Through our partnership with BNSF and UPRR, Metrolink has been fortunate to execute a five-year lease of spectrum from the spectrum holding entity PTC 220, LLC. The lease provides a workaround strategy and enables Metrolink to meet its near-term spectrum needs while Metrolink continues its efforts on a parallel path to secure its own spectrum, which is necessary to add to the pool of spectrum available in the region. Metrolink is approximately two years into its five-year lease with PTC 220, LLC. We are seeking a long-term solution to spectrum availability.

### **Funding Challenges**

Funding of Metrolink's PTC system has been a substantial challenge that required strong commitment from Metrolink's Member Agencies and the State of California. Metrolink accumulated over 30 separate funding sources to fulfill the current program budget of \$216.4 million. Approximately 85 percent of the funding came from state and local sources. The remaining budget to complete the scope within the capital budget, namely

interoperable testing, spectrum acquisition, documentation and close-out, is extremely tight. A slow-down in the industry's interoperable development or protracted resolution of regulatory issues could have an impact on Metrolink's project budget. As Metrolink transitions from a capital project to an agency operating cost, Metrolink has already begun incurring substantial costs related to training, adding and retaining staff for operations and maintenance of the system, component upgrades and replacement, and industry-wide software upgrades and enhancements.

For context, Metrolink's \$216.4 million investment in PTC is roughly equivalent to the agency's annual operating budget of approximately \$221 million dollars. Given the Metrolink Board's commitment to safety, hard choices were made and these funds were prioritized for PTC implementation. Federal funding has not been prioritized for PTC and remains a challenge for Metrolink going forward as we transition to operations.

### **PTC Implementation - Going Forward**

As noted above, Metrolink has now completed the deployment of PTC in Revenue Service Demonstration (RSD) on our lines and we are working with our freight and commuter railroad partners to achieve full implementation of PTC across all trains in its Southern California operating region. We expect to be in interoperability testing with each of our partners and on lines where we are the tenant railroad by the end of this year. We are the tenant railroad on 171 miles of track. We are working with our host railroad partners on these miles to be operating PTC RSD as soon as possible.

The transition to PTC operations will be demanding and costly for staff and involve many challenges, such as on-going vendor licensing and support costs, industry-pushed software upgrades, regulatory agency coordination, system maintenance, and PTC implementation on future line segments and new locomotives.

Despite the challenges, the safety benefits of having the millions of passengers that ride Metrolink trains each year protected with PTC technology substantially outweigh the costs.

Metrolink is very proud to be leading the nation in PTC implementation and to actively participate in the ITC to build a very complex safety system that will meet the test of time, improving railroad safety. Like many other commuter rail agencies, Metrolink has faced many obstacles since we began our efforts in 2009. However, with the strong support of our passenger and freight rail partners, state and local transportation agencies, the NTSB, and the FRA, we have found solutions. Our success comes from the strong partnerships and our mutual unwavering commitment to safety and saving lives.

We would like to thank Metrolink's House and Senate delegation for their enduring support and sustained leadership on PTC.

We would also like to thank Chairman Denham and Ranking Member Capuano for the opportunity to testify before the Committee today and share our experience.

