

PENINSULA CORRIDOR JOINT POWERS BOARD  
STAFF REPORT

TO: Joint Powers Board

THROUGH: Jim Hartnett  
Executive Director

FROM: Michelle Bouchard  
Chief Operating Officer, Rail

SUBJECT: **CALTRAIN POSITIVE TRAIN CONTROL PROJECT UPDATE – JULY 2018**

**ACTION**

Staff Coordinating Council recommends that the Board receive the Postive Train Control (PTC) report for July 2018.

**SIGNIFICANCE**

Staff will provide monthly updates covering PTC related activities during the previous month and provide a preview of activities anticipated to take place during the current month.

**BUDGET IMPACT**

There is no budget impact.

**MONTHLY UPDATE**

**1. Status on Major Milestones to Successfully Enter RSD December 2018**

<u>Key Project Activity</u>	<u>Expected Completion</u>	<u>Progress As Of 7/31/18</u>	<u>Progress On Track?</u>	<u>Mitigation Required or Approvals Needed</u>
Approval of Designated RSD Test Request	May 31	In FRA review	No	Original Test Request submitted to FRA on April 18 for approval. Revised Test Request submitted to FRA on June 22 based on FRA intial comments. Awaiting final FRA approval.
Approval of revised project PTC Implementation Plan (PTCIP) and Request for Ammendment (RFA)	May 31	In FRA review	No	Revised PTCIP and RFA submitted to FRA for approval on May 7. Revised PTCIP and RFA submitted on June 22 based on initial FRA comments. Awaiting final FRA approval.
Pilot Installations (4) Completed	June 20	Completed	Completed	All (4) pilot installs completed, production installs have begun.
Submit Designated RSD Application	Oct 15	Drafts in review	Yes	No issues at this time, discussions with FRA ongoing to insure clarity in process
Complete Critical Feature V&V	Oct 30	In Process	Yes	Designated RSD area informal V&V survey in process, started July 9
Designated RSD Training Complete	Nov 14	Not Started	Not Started	Master Test Plan reviewed, material development starts in August
Designated RSD – Required Vehicle Install Completion*	Nov 27	Not Started	Not Started	(44) Total installs required – (4) pilot plus (40) other vehicles
Complete All Designated RSD Testing (Lab, Functional and FQT)	Dec 18	Not Started	Not Started	Lab in development, lab testing begins in Aug, field testing Sept, PTC functional testing Nov
Start of Designated RSD*	Dec 18	Not Started	Not Started	Complete (44) installs and receive FRA approval to run in PTC mode in Designated RSD area

\*Key project activity that is tied to Wabtec performace incentive payment

Major Wabtec activities started and / or completed in July :

- Completed pilot installations of I-ETMS onboard equipment on (4) Caltrain locomotive and Caltrain cab cars, cars may be used in normal operations with PTC not engaged.
- Production installations of On Board PTC equipement has begun.
- Senior management meetings ongoing between JPB and Wabtec senior staff to discuss project progress and ensure any JPB concerns are addressed promptly.
- Field Verification & Validation testing has begun, Wabtec started with Critical Features and proceeding to WIU mapping and brake testing upon completion of Critical Features.
- Test lab set-up at Wabtec facility has been slightly delayed due to material and resource planning issues. Wabtec has re-planned requirements and testing is to begin in August.
- Significantly large number of contract submittals have been submitted by Wabtec, reviewed and comments returned by Caltrain project team. A sampling of the submittals in July included:
  - o Vehicle Installation Guides
  - o Vehicle Brake Test Plans
  - o Critical-Features Test Plan
  - o Integrated Work Plan
  - o WIU Mapping Field Valid and Verification Test
  - o On Board System Maintenance Manual
  - o Subdivision Release Package
  - o RFI for Crossings Data Analyzer for 35 Crossings
  - o PTC Configuration Management Plan
  - o ITCM System Design
  - o PTC RAM Plan
  - o DCS RF Drive Test Plan – AAR

**2. Change Order Log** – There have been no change orders requested from Wabtec during this reporting period, and there are none in process or review by JPB. This section will track all change activity on the contract.

**3. Risk Management** - JPB and Wabtec initiated the joint risk review sessions in June, with tentative agreement on format and reporting tool to be employed, and began deep dive into all risks to be monitored as part of the joint risk pool of items. There were no risks identified in the first meeting requiring elevation to JPB or Wabtec senior management for consideration of use of the risk pool funds. JPB and Wabtec have agreed to share the management of an identified list of risk items which were identified during the contract negotiations. The total cost allocated to these risks is \$1.9M to be shared amongst both parties. Unrealized risks will result in cost savings to the JPB. Risk review meetings between the JPB and Wabtec will be held on a quarterly basis, with the resulting update and actions to be noted in this report. There are also risks to be monitored outside the Wabtec specific contract that the project team monitors and mitigates as necessary.

The following table captures the top risks both external (outside the Wabtec contract) and internal (specific to the Wabtec contract):

<b>Risk Item</b>	<b>Type</b>	<b>Mitigation Action</b>
Potential EMU delay due to move from I-ITCS to I-ETMS	External	Project team continues to support EMU team effort to bring Wabtec under contract to provide PTC solution required for EMU cars with minimal delay
FRA process changes	External	Maintain close and open relationship with key FRA contacts to ensure all submittals are done correctly and within required time frame to achive 2018 RSD
FRA review cycle delays	External	Delays are being incurred due to significant volume of submittals from all properties requiring review and approval of RSD documentation prior to year end. Team working with FRA to minimize any delays incurred with Caltrain documentation and speed FRA review process.
Interoperability delays	External	Work with UPRR and tenants to ensure agreed to interoperability schedule dates are maintained

Onboard installation delays	Internal	Pilots installations are completed, project team is working with Wabtec to ensure installations are not delayed due to Caltrain review periods. Wabtec must insure production installation schedule is maintained to achieve required 2018 installs to achieve RSD.
Track access delays	Internal	Ensure field test schedule is maintained by coordinating all field work in combination with other capital projects needs
Back Office Server (BOS) documentation scope creep	Internal	Ensure standard documentation supplied by Wabtec meets requirements of Caltrain specification criteria

#### 4. Cost – Spend vs budget

	(A)	(B)	(C)	(D)	(E)	(F)=(C- E)	(G)=( D/E)
Project Cost Analysis	Original Budget (US\$MM)	Approved Changes (Contractor) (US\$MM)	Project Current Budget (US\$MM)	Expended and Accrual To- Date (US\$MM)	Estimated at Completion (EAC) (US\$MM)	Variance at Completion (US\$MM)	% Expended of EAC
<b>CBOSS PTC Project (Jan 2008- Feb 2018)</b>	\$ 231.00		\$ 239.88	\$ 202.26	\$ 202.26		
<b>Caltrain PTC Project (March 1st 2018- June 2020):</b>							
Integrator WABTEC Contract	\$ 43.01		\$ 43.01	\$ 4.55	\$ 43.01	\$ -	10.57%
Other Contractors	\$ 6.00		\$ 6.00	\$ 0.01	\$ 6.00	\$ -	
Potential Changes	\$ 2.00		\$ 2.00		\$ 2.00	\$ -	
Potential Incentive- WABTEC	\$ 2.00		\$ 2.00		\$ 2.00		
Other Program Costs	\$ 30.34		\$ 30.34	\$ 2.51	\$ 30.03	\$ 0.31	8.35%
Project Contingency	\$ 6.06		\$ 6.06		\$ 6.06	\$ -	
<b>Total PTC Project</b>	<b>\$ 89.41</b>		<b>\$ 89.41</b>	<b>\$ 7.07</b>	<b>\$ 89.10</b>	<b>\$ 0.31</b>	<b>7.93%</b>
<b>Note:</b>							
1). Expended and Accrual to Date is through June 30, 2018;							
2). Integrator Wabtec Contract Value includes Shared Risk with Not to Exceed Total of \$1.91MM							
3). Other Contractors amount includes ROCS Modification and potential fiber fixes;							
4). Potential Changes amount is set for future project change orders as result of WABTEC assessment and survey for the communications and office subsystems;							
5). Potential incentive amount reflects what is in the WABTEC conformed agreement;							
6). Other Program Costs includes JPB project oversight costs, TASI support and Other Direct Cost for PTC project delivery;							
7). Project contingency includes a) contingencies for WABTEC contract per Board Staff Report; b) JPB project team cost contingency;							
8). CBOSS PTC project budget and actual cost are highlighted to reflect prior March 1st, 2018 CBOSS project financial data.							

#### 5. Items of note in July – This section reports on PTC general progress and issues being tracked outside the Wabtec contract during the current reporting month.

- 1) Project team member attended second FRA PTC symposium in Washington D.C. on June 16<sup>th</sup>, gaining significant information and clarity as to PTC testing requirements to achieve RSD. Project team members planning to attend the third symposium to be held in August.
- 2) Project team hosted site visit by FRA national and regional team on July 24<sup>th</sup>, reviewing Caltrain submitted documentation still under FRA review and discussing strategies as to how Caltrain can proceed to maintain schedule to attain RSD or alternate schedule / plan to meet FRA requirements by year end.
- 3) Project team had submitted a revised PTC Implementation Plan (IP) and Request For Amendment (RFA) and a revised Test Request (TR) on June 22 for FRA approval. Caltrain had expected to receive rapid approval of these key documents but as of July 23 are still awaiting comments / approval. These documents are key project submittals that once approved may be used as a basis for the approval other documents required to achieve RSD.

- 4) Project team supported the submitted the Consolidated Rail Infrastructure and Safety Improvements (CRISI) Part 2 testing grant in July to request funding (approximately \$20M) to support the implementation of PTC at Caltrain.
- 5) Project team submitted the FRA 2<sup>nd</sup> Quarter PTC Report to the FRA as well as a copy to APTA for review.
- 6) Project team continued to perform analysis of installed WIUs requiring maintenance and examining the need for path forward to maintain WIU updates via either maintenance agreement with previous integrator signaling subcontractor or through other options.
- 7) Ongoing formal and informal updates to the FRA to ensure the Caltrain PTC project provides all information required in timely and correct manner expected to achieve RSD this year. Building strong relationships with the FRA regional personnel key to ensuring minimal if any delays in the review process.
- 8) Continued updates to Caltrain tenant railroads and the UPRR, discussing the Caltrain project re-start and plans to achieve PTC interoperability for the Caltrain and UPRR properties.
- 9) Project team completed review / replan of overall program budget required to finish the PTC project. The JPB executive staff will submit the revised budget to the PTC Ad Hoc committee and Board for review.
- 10) The PTC project continues its coordination efforts with the Electrification and EMU programs via regularly scheduled status meetings such as the Biweekly CalMod Systems Integration, the PCEP Delivery Coordination and the PTC-PCEP coordination meetings. Ad hoc meetings to discuss topics requiring indepth or immediate decisions are held as needed.
- 11) Continued field audit and diagnosis of Wayside Interface Units (WIUs) in designated RSD section and expanding to other areas to corrective action to restore functionality on any units identified by Wabtec.
- 12) Caltrain configuration management (CM) manager continues full integration into project team to ensure all Caltrain CM requirements are maintained during project execution and transition to daily operations upon project completion.
- 13) Caltrain Go Live team reinstated to ensure smooth transition of PTC operations and maintenance upon project completion. These efforts include manloading planning for both Caltrain and TASI operations and maintenance, as well as coordination of Master Service Agreements (MAS) negotiations with key suppliers required to support PTC long term service needs.

#### **6. Upcoming Key Activities in August -**

- 1) Continue production onboard installations on Caltrain fleet – With completion of (4) pilot installations, Wabtec is now installing their onboard PTC product on (40) production vehicles that have been chosen for the (44) total vehicles to be installed and tested to complete the RSD requirements for fleet installations.
- 2) Receive anticipated FRA approval for the designated RSD track segment (15 miles) required for achieving RSD in 2018. Also expect approval of the PTCIP, RFA and Test Request if not received in July.
- 3) Continue regular open communication with Wabtec senior management to ensure the Wabtec project team maintains focus on completing all activities required to meet 2018 RSD requirements.
- 4) Continue V&V testing activities in designated RSD area as well as braking tests to ensure all PTC equipment is in good working condition.
- 5) Continue to work closely with the FRA regional and national representatives to ensure all aspects of documentation and testing requirements are maintained and approvals (by FRA) granted.
- 6) Attend (with freight and other commuter rail authorities) the August FRA coordination meeting in Washington, D.C. to gain further FRA direction / insights to ensuring smooth coordination and reviews of RSD application documentation toward goal of gaining 2018 RSD approvals.

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