

FROM: Michelle Bouchard
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SUBJECT: **CALTRAIN POSITIVE TRAIN CONTROL PROJECT UPDATE – JUNE 2018**

ACTION

There is no action. This report constitutes a monthly update since there was no July JPB Board meeting. Next month's report containing July activities will be contained in the regular Board Packet

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 6/30/18</u>	<u>Progress On Track?</u>	<u>Mitigation Required or Approvals Needed</u>
Approval of Designated RSD Test Request	May 31	In Process	No	Original Test Request submitted to FRA on April 18 for approval. Revised Test Request submitted to FRA on June 22 for approval. Expect approval in July.
Approval of revised project PTC Implementation Plan (PTCIP) and Request for Amendment (RFA)	May 31	In Process	No	Revised PTCIP and RFA submitted to FRA for approval on May 7. Revised PTCIP and RFA submitted on June 22 for approval. Expect approval in July.
Pilot Installations (4) Completed	June 20	In Process	Yes	All (4) pilot installs completed except for punch list items, production installs gearing up to start ASAP
Submit Designated RSD Application	Oct 15	Not Started	Not Started	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, expecting July start
Designated RSD Training Complete	Nov 14	Not Started	Not Started	Master Test Plan reviewed, material development starts in July
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 performance incentive payment*

Major Wabtec activities started and / or completed in June :

- Completed pilot installations of I-ETMS onboard equipment on (4) Caltrain locomotive and Caltrain cab cars. Some punch list items remaining but will not prevent the start of production installs
- Senior management meeting held between JPB and Wabtec senior staff to discuss project progress. JPB received assurance from Wabtec management that material will flow to project as needed and will not be an impedence to delaying work.
- WIU mapping files and PTC library files were received from the previous system integrator’s subcontractor on June 7 and turned over to Wabtec for use. Wabtec stated that no schedule impact was expected.
- Completed system-wide fiber audit field activities on June 20 to determine the scope of repair required from the installation performed under the previous integrator. This audit will also result in updated As-Built drawings that correctly display the PTC fiber network and will be used by other capital projects as needed for their work as well as Caltrain day to day maintenance of the overall system. System integrator will consolidate findings for review with PTC team in August to determine correction plan required.
- All remaining new crossing logs were downloaded by Caltrain and turned over to Wabtec as requested for use as needed by Wabtec.
- Significantly large number of contract submittals have been submitted by Wabtec, reviewed and comments returned by Caltrain project team. A sampling of the submittals include:
 - o Integrated Work Plan
 - o Subdivision-and Critical Asset Configuration Management Plan
 - o Multiple Brake Test Plans
 - o Contract Deliverables Requirements List
 - o PTC Configuration Management Plan
 - o Critical Feature Validation Designated Track Segment
 - o Master Training Plan
 - o Locomotive Antenna Test Report Comments
 - o System Insurance
 - o Field V and V Testing of PTC Critical Features Test Plan
 - o Multiple Vehicle Installation Documents
 - o WIU V&V Submittal
 - o Signal and Switch WIU PTC VV Test Sheets
 - o MP36 Survey PUB 1571 Rev B

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):

Risk Item	Type	Mitigation Action
Potential EMU delay due to move from I-ITCS to I-ETMS	External	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 insure all submittals are done correctly and within required time frame to achive 2018 RSD
FRA review cycle delays	External	Potential for delays incurred due to significant volume of submittals from all properties requiring review and approval of

		RSD documentation prior to year end
Interoperability delays	External	Work with UPRR and tenants to insure agreed to interoperability schedule dates are maintained
Missing WIU mapping files	Internal	Required configuration files not received from previous system integrator, could lead to significant re-work effort if Wabtec is required to recreate them. STATUS UPDATE – Files were received from previous contractor on June 7, turned over to Wabtec for use, and no schedule impact is expected. This risk will be removed from the next monthly update.
Onboard installation delays	Internal	Uphold review schedule for pilot design approval and insure production installation schedule is maintained by Wabtec to achieve required 2018 installs to achieve RSD.
Track access delays	Internal	Insure 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	Insure 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)
	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
Project Cost Analysis							
CBOSS PTC Project (Jan 2008 - Feb 2018)	\$ 231.00		\$ 239.88	\$ 202.07	\$ 202.07		
Caltain PTC Project (March 1st 2018 - June 2020):							
Integrator WABTEC Contract	\$ 43.01		\$ 43.01	\$ 2.24	\$ 43.01	\$ -	5.20%
Other Contractors	\$ 6.00		\$ 6.00		\$ 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	\$ 1.11	\$ 30.34	\$ -	3.67%
Project Contingency	\$ 6.06		\$ 6.06		\$ 6.06	\$ -	
Total PTC Project	\$ 89.41		\$ 89.41	\$ 3.35	\$ 89.41	\$ -	3.75%

Note: Expended and Arrual to-Date is through April 30, 2018.

1). Expended and Arrual to Date is through April 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 June – This section reports on PTC general progress and issues being tracked outside the Wabtec contract during the current reporting month.

- 1) Project team members attended initial FRA PTC symposium in Washington D.C. on June 15th, gaining significant information and clarity as to PTC documentation requirements to achieve RSD. Project team members will attend the second symposium to be held on July 16.
- 2) Project team members attended the quarterly APTA conference June 10th-13th to gain insights into other rail properties achievements and struggles in gaining PTC RSD. Of note was the opportunity to interact with the Denver rail system team, including witnessing their system running in PTC service mode.
- 3) Project team hosted site visit by FRA regional team on June 19th, reviewing both documentation and visiting field locations BCCF, base stations and CEMOF (to view pilot onboard installations). Received assurance that July 9th testing could proceed as requested.
- 4) Several project team members attended TTCI-sponsored training on June 27th, focusing on MTA04-specific design topics. Members of the Wabtec project team attended the training as well. Curriculum focused on training communication system engineers supporting the current regional timeslot plan as well as how to implement future requirements.

- 5) ARINC / Rockwell Collins continued significant effort in June (June 11th- June 29th) to upgrade the Caltrain ROCS system as related to the Back Office Server (BOS) upgrade to be performed by Wabtec as a part of the PTC project. Work began by updating BCCF equipment in support of BOS upgrade.
- 6) Submitted revised PTC Implementation Plan (IP) and Request For Amendment (RFA) on June 22 for approval, based on FRA comments and FRA symposium information, originally submitted May 7. Also submitted revised Test Request to FRA on June 22 for approval, based on comments received on June 19 from FRA review of original Test Request submitted on April 19. These documents are key project submittals that once approved may be used as a basis for the approval other documents required to achieve RSD.
- 7) Performed final revisions and re-submitted the CRISI Part 1 testing grant (\$2.8M) in June to reflect the move from I-ITCS to an I-ETMS PTC solution for the Caltrain system.
- 8) As noted earlier, the project received complete package of WIU mapping / configuration files received by JPB legal team from previous integrator and required for new integrator to implement PTC system. Project will continue to examine need for path forward to maintain WIU updates via maintenance agreement with previous integrator signaling subcontractor (Alstom).
- 9) Continued review of application requirements and review criteria for potential new grant under recently announced Consolidated Rail Infrastructure and Safety Improvements CRISI Part II funding, expected submission first week of July.
- 10) Ongoing informal updates to the FRA to insure 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 insuring minimal if any delays in the review process.
- 11) 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.
- 12) 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.
- 13) 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.
- 14) 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.
- 15) Caltrain configuration management (CM) manager continues full integration into project team to insure all Caltrain CM requirements are maintained during project execution and transition to daily operations upon project completion.
- 16) Caltrain Go Live team reinstated to insure 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 July -

- 1) Initiate production onboard installations on Caltrain fleet – With completion of (4) pilot installations, Wabtec will now install 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.
- 3) Begin V&V testing activities in designated RSD area July 9th to insure all PTC equipment is in good working condition, then starting full field testing.
- 4) Receive comments from informal submission of project PTC functional test procedures to FRA for review, revise as needed and formally submit the procedures for FRA approval.
- 5) Attend (with freight and other commuter rail authorities) proposed July 16th FRA coordination meeting in Washington, D.C. to gain further FRA direction / insights to insuring smooth coordination and reviews of RSD application documentation toward goal of gaining 2018 RSD approvals.