Caltrain PTC Program Status & Wabtec Contract Award

Local Policy Maker Group
April 26, 2018

Discussion

• Program timeline
• PTC program and industry status
• Contracting objectives and strategy
• Path forward and Wabtec
• Funding
• Next Steps
## Timeline

<table>
<thead>
<tr>
<th>Date</th>
<th>Action</th>
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<tbody>
<tr>
<td>Pre-2008</td>
<td>Caltrain began development Communications Based Overlay Signal System (CBOSS) Positive Train Control (PTC)</td>
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<tr>
<td>2008</td>
<td>Rail Safety Improvement Act, Federal Mandate PTC</td>
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<tr>
<td>2011</td>
<td>Contract with PTG</td>
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<tr>
<td></td>
<td>• $239M Budget ($159M for PTG contract)</td>
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<td></td>
<td>• Original in-service date October 2015</td>
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<tr>
<td>2016</td>
<td>Peer review, multiple partnering efforts</td>
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<tr>
<td>2017 (Feb.)</td>
<td>Termination PTG contract after persistent delays, associated program cost increase and lack of performance</td>
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### Timeline (Continued)

- **PTG Termination Last Resort**
  - Advised regulators (FRA & FTA)
  - Coordination with funding partners
  - Secured program assets (fiber, spares, Backup Control Center Facility etc)

- **Summer 2017 Pursue Options with Alstom**
  - Contractual issues associated w/ relationship PTG
  - Prohibitively unreasonable price

- **Fall 2017 / Winter 2018 Revisit Scope**
  - Solicit proposals from original RFP proposers
  - Evaluate industry since original award in 2011
Program Status

- Installation of all subsystems complete
  - On-Board Equipment
  - Wayside Interface Unit & FRA Official Validation Testing
  - Back office
  - Fiber optic backbone
  - Base stations (14)
  - Control center
  - High Rail Testing for FRA Official Critical Assets Complete

- Spectrum leased
- Train brake testing and federation in-process
- Draft RSD application submitted to FRA

Industry Status

- PTC implementation problematic
- FRA rigid requirements for extension to 2018 deadline
  - February 5 meeting with FRA indicates no flexibility
- Interoperability significant challenge even when using same technology
- Capital funding scarce
- Operations and SOGR funding not available from grants
  - Significant impacts to operating budgets
- Availability resources (people and technology) challenge
- Few vendors in the industry
Lessons Learned

• Caltrain PTC team hired and in place
  – Will work in concert with Wabtec to deliver the program
  – Will ensure knowledge transfer

• Go live planning
  – Interdisciplinary team working to ensure smooth transition to operations and maintenance

• Peer discussions/benchmarking
  – Knowledge share among properties with the same challenges
  – Future benchmarking for estimating ongoing SOGR and Operating costs
Contracting Objectives & Strategy

• Meet December 2018 Federal PTC mandate
• Retain knowledge / experience project team
• Procure in compliance with applicable FTA guidelines
• Minimize procurement time
• Maximize cost efficiencies
• Minimize risk

Path Forward

• Most Viable Alternative: Wabtec
  – Second highest ranked proposer in original RFP
  – Additional recent proposal solicitation /outreach confirmed ability to deliver
  – Technology (I-ETMS) already approved by FRA
  – Used by Union Pacific (UP) on San Jose to Gilroy corridor (JPB was going to install same equipment on locomotives in UP territory)
  – Facilitates interoperability with UP and tenants
  – Reduced maintenance costs
  – Developed passenger rail functionality
Wabtec Transition

• Original CBOSS PTC designed to be interoperable with Wabtec platform
• Not a complete change-out

<table>
<thead>
<tr>
<th></th>
<th>~60% re-used/repurposed/retrofit. Some components used for spare, pilot units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Onboard</td>
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<tr>
<td>Data Communication System (DCS)</td>
<td>100% reused</td>
</tr>
<tr>
<td>Office</td>
<td>75% Used with 2 servers kept for spares</td>
</tr>
<tr>
<td>Wayside</td>
<td>90% equipment can be re-used, the remainder used for spares</td>
</tr>
<tr>
<td>Backup Central Control Facility (BCCF)</td>
<td>100% reused</td>
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<tr>
<td>Database</td>
<td>100% reused</td>
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<tr>
<td>Transponders</td>
<td>Not used by I-ETMS. Keeping transponders to aid in train location in the future</td>
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Wabtec Contract

• Scope
  – On-board installation, Assessment and integration of all systems, Hi-Rail and Lab equipment, FRA documentation

• Incentives: $2 million
• Risk sharing: $1.9 million
• Contingency: $4.5 million
• Total contract budget: $49.5m
• Eligibility for extension by 12/18
• Compliant PTC system within allowed time
Funding Status

- ~$59M remaining in funds
  - Cover contract budget through system acceptance
  - Program support costs through 2018
- Total program budget and funding plan to be developed
  - Brought back to the Board once field assessments have begun (June/July)
- Staff currently identifying grant and funding opportunities

Next Steps

- Begin field assessment and submit alternate Revenue Service Demonstration (RSD) strategy and extension request to FRA (April)
- Onboard equipment installation complete (Dec)
- Enter RSD (Dec)
- Complete staff training
- Submit Safety Certification Program
- Program Efforts
  - Monthly board reporting and updates
  - Ensure rigorous oversight feedback loop w/ partners
  - Continue PCEP PTC interface coordination
  - Develop final program budget and funding plan
  - Continue go live team efforts
Questions