CALTRAI N ELECTRIFICATION UPDATE

JPB Meeting
June 3, 2021
PROJECT INFO
**Project Area**

- 51 miles
- San Francisco to San Jose (Tamien Station)

**Project Elements**

**Electrification**

- Overhead Contact System (OCS)
- Traction Power Facilities

**Electric Trains**

- 19 7-car train sets
- 133 electric cars

*Includes 2018 State TIRCP Funding*
Improved Train Performance, Increased Service and Greater Capacity

Improved Regional Air Quality and Reduced Greenhouse Gas Emissions

Positive Economic Benefits for the Region

Reduced Engine Noise Emanating from Trains
LONG-TERM SERVICE VISION

- Electrification sets the foundation for the future growth of the system
- Caltrain Service Vision Adopted in 2019, meets the projection regional growth in jobs and housing in the Bay Area
- Projects a tripling of ridership, increased peak and off-peak service, carrying the equivalent of 5.5 lanes of highway traffic of US 101
CONSTRUCTION PROGRESS
• Overhead Contact System Installation
  • Foundations complete south of Menlo Park Station (Segments 3 & 4)
  • Pole installation complete between Menlo Park to Santa Clara stations (Segment 3)

• Traction Power Facilities
  • Design work is complete for all 10 facilities
  • Transformers have been installed in 9 of 10 Traction Power facilities

• Electric Trains
  • 70 car shells have been shipped from Stadler Switzerland, 55 are in Stadler Salt Lake City, 15 are in transit
  • Train 1 tested at high-speeds in Pueblo, CO
## OCS FOUNDATION

<table>
<thead>
<tr>
<th>Foundation Locations</th>
<th>Number of Foundations Required</th>
<th>Number of Foundations Remaining</th>
<th>Installation Percent Complete</th>
<th>Anticipated Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Segment 1</td>
<td>535</td>
<td>434</td>
<td>19%</td>
<td>11/30/2021</td>
</tr>
<tr>
<td>Segment 2</td>
<td>1,090</td>
<td>210</td>
<td>81%</td>
<td>06/30/2021</td>
</tr>
<tr>
<td>Segment 3</td>
<td>901</td>
<td>Complete</td>
<td>100%</td>
<td>Complete</td>
</tr>
<tr>
<td>Segment 4</td>
<td>370</td>
<td>Complete</td>
<td>100%</td>
<td>Complete</td>
</tr>
<tr>
<td>CEMOF</td>
<td>85</td>
<td>Complete</td>
<td>100%</td>
<td>Complete</td>
</tr>
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</table>

Data as of May 22, 2021
## OCS POLES AND WIRE

### OCS Poles

<table>
<thead>
<tr>
<th>OCS Pole Locations</th>
<th>Number of OCS Poles Required</th>
<th>Number of OCS Poles Remaining</th>
<th>Installation Percent Complete</th>
<th>Anticipated Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Segment 1</td>
<td>440</td>
<td>440</td>
<td>0%</td>
<td>12/15/2021</td>
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<tr>
<td>Segment 2</td>
<td>956</td>
<td>479</td>
<td>50%</td>
<td>07/30/2021</td>
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<tr>
<td><strong>Segment 3</strong></td>
<td><strong>750</strong></td>
<td>Complete</td>
<td><strong>100%</strong></td>
<td>Complete</td>
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<tr>
<td>Segment 4</td>
<td>300</td>
<td>20</td>
<td>93%</td>
<td>05/31/2021</td>
</tr>
<tr>
<td>CEMOF</td>
<td>86</td>
<td>86</td>
<td>0%</td>
<td>06/14/2021</td>
</tr>
</tbody>
</table>

### OCS Wire

<table>
<thead>
<tr>
<th>OCS Wire Locations</th>
<th>Installation Percent Complete</th>
<th>Anticipated Installation Completion</th>
<th>Testing Percent Complete</th>
<th>Anticipated Testing Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Segment 1</td>
<td>0 %</td>
<td>01/15/2022</td>
<td>0 %</td>
<td>01/31/2022</td>
</tr>
<tr>
<td>Segment 2</td>
<td>20 %</td>
<td>09/25/2021</td>
<td>8 %</td>
<td>10/10/2021</td>
</tr>
<tr>
<td>Segment 3</td>
<td>96 %</td>
<td>05/03/2021</td>
<td>47 %</td>
<td>05/15/2021</td>
</tr>
<tr>
<td>Segment 4</td>
<td>31 %</td>
<td>06/30/2021</td>
<td>0.0 %</td>
<td>07/15/2021</td>
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</table>

Data as of May 15th, 2021
OVERHEAD CONTACT SYSTEM
## SIGNAL SYSTEM

<table>
<thead>
<tr>
<th>Signal Locations</th>
<th>95% Design Percent Complete</th>
<th>Anticipated Design Completion of 95%</th>
<th>Installation Percent Complete</th>
<th>Anticipated Installation Completion</th>
<th>Testing Percent Complete</th>
<th>Anticipated Testing Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Segment 1</td>
<td>64%</td>
<td>11/02/2022</td>
<td>21%</td>
<td>04/01/2023</td>
<td>0%</td>
<td>04/30/2023</td>
</tr>
<tr>
<td>Segment 2</td>
<td>94%</td>
<td>04/01/2022</td>
<td>23%</td>
<td>08/01/2022</td>
<td>0%</td>
<td>12/31/2022</td>
</tr>
<tr>
<td>Segment 3</td>
<td>20%</td>
<td>10/01/2022</td>
<td>21%</td>
<td>04/30/2023</td>
<td>0%</td>
<td>09/30/2023</td>
</tr>
<tr>
<td>Segment 4</td>
<td>100%</td>
<td>Complete</td>
<td>72%</td>
<td>05/31/2021</td>
<td>57%</td>
<td>06/30/2021</td>
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Data as of April 1, 2021
• FRA is actively participating in the cutover inspection
• Four Segment 4 signal cutovers completed
• Upcoming Segment 4 Cutovers
  • Cutover #5 (CP Shark and CP Alameda) anticipated for weekend of 6/11/21
  • Cutover #6 (CP Coast and CP De La Cruz, Reed Street) anticipated for weekend of 6/25/21
• **PG&E**
  - PG&E Substations at FMC (San Jose) & East Grand (SSF)
    o East Grand Substation: 83% complete
    o FMC Substation: 67% complete
  - TPSS-1 & TPSS-2 Interconnections
    o Construction at TPSS-2 Interconnection complete. Forecast connection to Temporary Power by August 2021.

• **Traction Power System**
  - Design is complete for all traction power facilities
  - Traction Power Substations 1 & 2 (TPSS-1 & TPSS-2) and Switching Station 1 (SWS-1): 90% complete
  - Switchgear installation expected to start in June 2021
BBII electricians running bus conduits at the transformer and bending the conduits to size for installation at PS-5.

BBII electrician installing PVC conduit for anchoring for concrete pour at PS-5.

Excavating for site fence foundations at TPS-2.
• Parts Storage Warehouse installation complete; interior work ongoing
• Construction of north and south pit extension nearing completion
• Equipment testing room reconstruction will be finalized next month
• Work scheduled to be complete by June 2021, pending Change Order

Parts Storage Warehouse

Pit Extensions
• **Production**
  - COVID-19-related Global safety measures have slowed production
  - Switzerland production and Salt Lake City assembly delayed

• **Testing**
  - Dynamic type testing started at TTCI in Pueblo, CO on Train 1
  - HVAC type testing started on Train 2
  - Routine testing is in process on Train 3

• **Schedule**
  - First trainset to Caltrain now scheduled for February 2022 primarily due to Seisenbacher US bankruptcy and Seisenbacher Austria financial troubles
  - Acceptance of 14th trainset now scheduled for August 2023
COST & SCHEDULE RISK UPDATE
<table>
<thead>
<tr>
<th>Description</th>
<th>Current</th>
<th>DRAFT FTA Risk Refresh</th>
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</thead>
<tbody>
<tr>
<td>Revenue Service</td>
<td>Quarter 3 2022</td>
<td>Quarter 4 2024</td>
</tr>
<tr>
<td>Cost</td>
<td>$1.98B*</td>
<td>$2.313B*</td>
</tr>
</tbody>
</table>

* Adjusted to match Caltrain accounting. Includes $50M pre-FFGA spending and $9M financing costs.

- Project cost has increased and schedule extended
- FTA estimate additional cost to complete: $333M
- FTA estimate schedule extension: Q4 2024 (CY)
  - Includes 6 month contingency
### ADDITIONAL COSTS - KNOWN AND RESERVE

<table>
<thead>
<tr>
<th>Additional Cost</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Known and Allocated Costs</td>
<td>$161.0M</td>
</tr>
<tr>
<td>Reserve</td>
<td>$172.0M</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$333.0M</strong></td>
</tr>
</tbody>
</table>

- $161M known costs
- $172M reserve to address unknown risks
- Construction Management Efforts
  - Timely Resolution of Contract Disputes
  - Aggressively Manage Risks
  - Cost Trend Analysis
• Direct Costs
  – Signal System/Communications
  – Unknown Underground Site Conditions
  – PG&E

• Indirect Costs
  – Construction Support

• COVID Related Delays
• Discussions on-going

• Contracting options
  - Plan A: Global resolution with Balfour Beatty
  - Plan B: Descope all signal system work from Balfour Beatty; contract directly with third-party contractor
FUNDING
• Federal and State Funding Opportunities
  - $52.4 million from ARPA
  - Actively pursuing other grant sources

• Issuance of tax-exempt bonds
  - Bonds secured by Measure RR to provide lowest interest cost and greatest structuring flexibility
  - Bonds structured to be payable from sale of Low Carbon Fuel Standards (LCFS) credits upon electrified revenue service

• Member agency funding
  - As provided by members

• Four Party Agreement
  - $200M backstopped by agencies as part of FFGA approval (SFCTA, SMCTA, VTA, MTC)
• Part of Comprehensive Financing Plan
• Bonds
  - Likely to be sold as fixed rate bonds
  - Structured for highly flexible amortization (depending on receipt of LCFS revenue)
  - Mitigate potential reliance on Measure RR funds as a source of payment (as opposed to serving as security)
• Other financing components
  - Replacement of two existing lines of credit
  - Including one used to support project cash flow (replacement reduce cost of financing)
NEXT STEPS
NEXT STEPS

• Complete Contractor Negotiations
• Update Project Completion Plan (FTA, CHSRA)
• Update Funding Plan and Agreements
• Contract award authorization / budget approvals
QUESTIONS / COMMENTS