



# Caltrain Modernization Program Peninsula Corridor Electrification Project (PCEP)



## Executive Monthly Progress Report

July 31, 2023

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## **1.0 EXECUTIVE SUMMARY**

### **1.1 Introduction**

The Peninsula Corridor Electrification Project (PCEP) will upgrade 51 miles of diesel service to electrified service from San Francisco to San Jose (Tamien Station). The PCEP scope of work includes design and construction of an overhead contact system, traction power facilities, modification of the existing signaling and grade crossing protection system to make it compatible with the electrified railroad, substation improvements at Pacific Gas and Electric (PG&E) substations, and modifications at existing tunnels and Caltrain’s maintenance facility. It also includes the design, manufacturing, assembly, testing, and delivery of the Electric Multiple Units (EMUs).

Caltrain completed a thorough assessment of all aspects of the program including cost, schedule, risks, and organization after the global settlement in 2021. Caltrain re-baselined the program budget and schedule in December of 2021. Caltrain finished a schedule reforecast in March 2023 and is committed to deliver PCEP and achieve revenue service in September of 2024.

### **1.2 Program Cost and Budget**

On December 6, 2021, the JPB adopted a new PCEP program budget of \$2,442,690,697. On January 31, 2023, Caltrain received a \$367 million funding award from California’s Transit and Intercity Rail Capital Program’s (TIRCP) Cycle 6 Existing Project Reserve, representing the remaining funding needed to complete the project. The project is now fully funded in the amount of \$2,442,690,697. As of July 2023, the project is on budget:

- The current project total cost at completion (EAC) is the same as the Board adopted budget of \$2.44 billion.
- As of July 2023, a total of \$9.8M has been drawn down from the Shared Risk Pool of \$50 million. In July 2023, \$1.76M was drawn from the Shared Risk Pool.
- As of July 2023, a total of \$11.54M has been drawn from the project contingency of \$40 million. In July 2023, there was no draw from project contingency.
- As of July 2023, no new awards have been made from the Project incentive pool of \$18.5 million.
- As of July 2023, no incentive was issued from the milestone incentive pool of \$15 million.

### **1.3 Program Progress and Schedule**

As of July 31, 2023, the overall project completion is 85.58%. The current program schedule is projecting a PCEP substantial completion date of April 2024 and Revenue Service by September 2024. Staff is implementing a 2023 path to completion with 31 weekend area focused bus bridges to maximize track access to allow system integration testing, signal cutovers, and proactive OCS construction productivity mitigations for the remaining PCEP work.

### **1.4 Change Management Board (CMB)**

In July 2023, no items were brought to the CMB for approval:

### **1.5 This Month’s Accomplishments**

The project team has completed the following notable activities for the month of July 2023:

- Held public EMU tour events in Diridon with an outstanding turnout.
- Measured monthly project schedule against the reforecast that reflects the path to completion with 31 focused area weekend closures. The reforecast schedule does not change the Project completion date. Interim milestones have been developed and measured against the reforecast schedule.
- Continued to coordinate low voltage power drop applications with PG&E and utilizing generators to support project testing and cutovers.
- Continued bi-weekly project completion road map meeting with Design-Build Contractor Executives to monitor OCS productivities and addressed TPS findings. Additional third-party crews have been working on regulations since June 2023.
- Completed operations planning, ambassador, and rail service planning effort for Segments 1 and 2 OCS construction weekend area closures for July.
- Completed service plan and special train schedule for August Segment 1 Signal cutover bus bridge.
- Drill track has been energized and used for Operator refresh training.
- Issued Temporary use permit for Segment 4 which enables Segment 4 Live run testing.
- Continued Operator’s refresher training at the Drill Track.
- Held Monthly CMB meeting for program status and change order approval.
- Continued to work with FRA on Submitted Programmatic Agreement (PA) amendment review and approval.
- Continued safety special task force working group, including TASI, Rail Operations and PCEP to address communications, process, and procedure improvements.
- Continued providing PCEP progress updates to funding partners, leadership, elected officials, citizens, and business community.
- Continued Rail Activation effort on taking on isolation and protection service post completion of Milestone 1.
- Planned for TPS 1 energization with PG&E in August.
- Performed pretesting and all prep work for Segment 1 last cutover which includes the last two crossings.
- Received FRA Test request conditional approval and prepared for EMU PTC testing on mainline.
- Completed TPS documentation audit, field validation and test audit.

## **1.6 Upcoming work**

For the next six months, the PCEP team has set additional goals as described below:

- Continue bi-weekly project completion road map meeting with Design-Build Contractor Executives to address path to substantial completion.
- Continue operations planning, ambassador, and rail service planning minor issues efforts for remaining weekend area closures for last quarter of 2023

- Continue to coordinate with PG&E on low voltage power drop applications, and distribution line de-energization work.
- Complete EMU PTC testing on mainline and achieve 79mph runs.
- Energize TPS1 by August 26, 2023 for both lines.
- Complete Segments 4 and 3 Live runs with the EMUs.
- Complete live runs and energize CEMOF for EMU commissioning.
- Complete Segments 4 and 3 joint punch list walks.
- Hold FTA Quarterly progress meeting.
- Hold Monthly CMB meeting for program status and change order approval.
- Continue and complete certification of compliance for Milestone 1 limits which will provide 20 miles electrified line for EMU burn-in in fall of 2023.
- Complete EMU revenue service maintenance program and diesel fleet exit plan.
- Continue work with FTA and complete Programmatic Agreement (PA) amendment and finalize burial agreement and treatment plan.
- Confirm remaining short circuit tests timeline with PG&E

The PCEP Project is currently on budget and on time for achieving Revenue Service in September of 2024.

**1.7 Critical Items**

As of July 2023, PCEP has completed Segment 1 Phase 1 signal cutover, fulfilled the \$410M funding gap, and has adequate RWIC to support field construction. The top critical items and related actions are highlighted below.

**Table 1-1. Critical Issues and Actions**

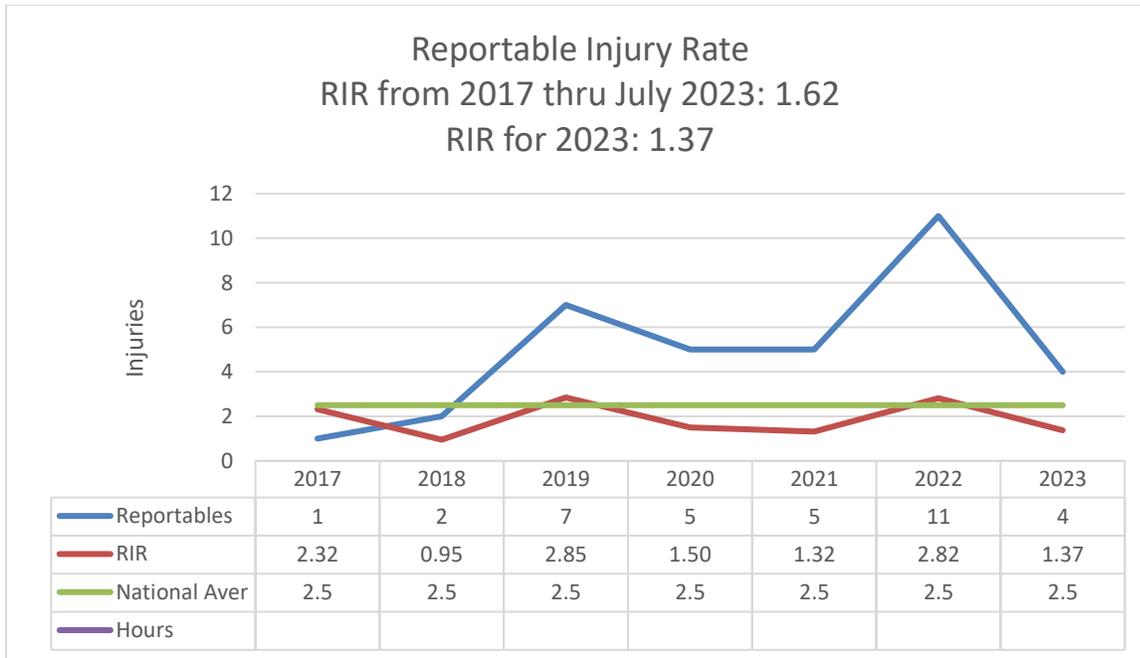
Critical Issues	Actions
<p>Overhead Contact System (OCS) installation delay due to low productivity</p> <p>Note: The project OCS work was on hold from March 10, 2022, to March 28, 2022, during the safety stand down.</p> <p>Segment 2 OCS was damaged during high wind and heavy rainstorms in late December 2022 and early January 2023</p>	<ul style="list-style-type: none"> <li>• Additional BBII OCS crew training for regulation and variance in the OCS design / installation due to re-design &amp; accommodations to resolve foundation Differing Site Conditions (DSC) issues – Completed.</li> <li>• Hiring additional BBII OCS staff members to prevent schedule slippage and help in future installation planning – Completed.</li> <li>• Hold OCS construction scheduling recovery workshop for remaining OCS installation and testing – Completed.</li> <li>• Increase OCS crews and OCS wiring equipment to increase productivity – Completed.</li> <li>• More track access including weekend area closures for remaining Segments 1 and 2 OCS construction and testing. Weekend bus bridge construction started on February 11, 2023.</li> <li>• OCS storm repair work for Segment 2 is planned for August/September 2023 due to rainstorm and long lead time for materials.</li> <li>• Bring on more regulating crews in May 2023. Mass will start regulating work in the first week of June 2023 – Completed.</li> <li>• Procure more equipment parts and ensure all equipment is performing well for construction – Completed.</li> <li>• Bring on equipment fitters and warehouse material manager on site – Completed.</li> </ul>

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Critical Issues	Actions
<p>Complete TPS Short Circuit Tests</p> <ul style="list-style-type: none"> <li>• TPS 2 short circuit test delays drill track and Segment 4 mainline energization. TPS 2 Short circuit test was performed in May 2023 with some follow up actions.</li> <li>• TPS 1 Short Circuit Test is scheduled for October 21st.</li> </ul>	<ul style="list-style-type: none"> <li>• Perform comprehensive root cause analysis and develop corrective action plan – Completed.</li> <li>• Implement configuration change control process including design drawing, shop drawings, as-built version control to ensure all parties are using the same set of drawings for TPS2 testing – On-going.</li> <li>• Perform technical working groups including all vendors and EOR – On-going.</li> <li>• Weekly management team briefing on corrective action status – On-going.</li> <li>• Perform independent assessment of the TPS – Completed.</li> <li>• Develop SSWP for all work performed at TPS for Caltrain review and approval – On-going.</li> <li>• Perform field verification and pre-testing before short circuit re-test – Completed.</li> <li>• Perform load bank testing prior to short circuit re-test. – Completed.</li> <li>• Developed remaining short circuit tests required for system completion – on going.</li> </ul>
<p>Theft of impedance bond or grounding cables may delay segment live run testing because the system (or portions of the system) cannot be energized without impedance bonds</p>	<ul style="list-style-type: none"> <li>• Monitor hot spot areas in segments 1, 3 and 4. Perform just in time replacement right before the testing.</li> <li>• Report Theft incidents with Transit PD</li> <li>• Enhance security with cameras and other monitoring systems.</li> <li>• Work with Communications on high voltage safety messages</li> <li>• Distribute high voltage safety fliers to the homeless encampments.</li> </ul>

**2.0 SAFETY**

There were no reportable injuries in July 2023. The Reportable Injury Rate (RIR) for 2023 YTD is currently 1.37. Overall, since the project’s inception, the RIR is at 1.62, which remains below the national average. Please note that the chart below was updated for the current year.



**Figure 2-1. Project Reportable Injury Rate (RIR) by Year**

**Completed Work**

Safety staff continues to coordinate with contractors to identify opportunities to improve safety performance. Organizational-wide safety briefings are being performed to ensure staff understand the application of post incident mitigation measures including rules and procedural changes designed to enhance safety. Project Safety continues to reinforce jobsite safety practices throughout the Caltrain alignment, investigate incidents, and identify mitigation measures to prevent re-occurrences. Safety project coordination meetings continue to be conducted monthly to promote a clear understanding of project safety requirements. In addition, Caltrain Safety continues weekly calls with the lead safety staff from Caltrain, PCEP, BBII, and TASI to discuss safety performance and ongoing initiatives.

**Upcoming Work**

The Fire/Life Safety Committee continues to work with emergency responders along the Caltrain corridor on emergency preparedness in advance of energization. The safety team has updated the OCS and EMU emergency responder safety familiarization presentations to include voiceover features for use by the Fire Departments. The presentation will also be shared with other emergency responder jurisdictions through the project Fire/Life Safety Committee.

OCS and EMU First Responder training is currently scheduled for So. San Francisco, San

Mateo, Redwood City, San Carlos, Belmont, Burlingame, Millbrae, Hillsborough, San Bruno, and San Francisco fire departments in August, September, October, and November.

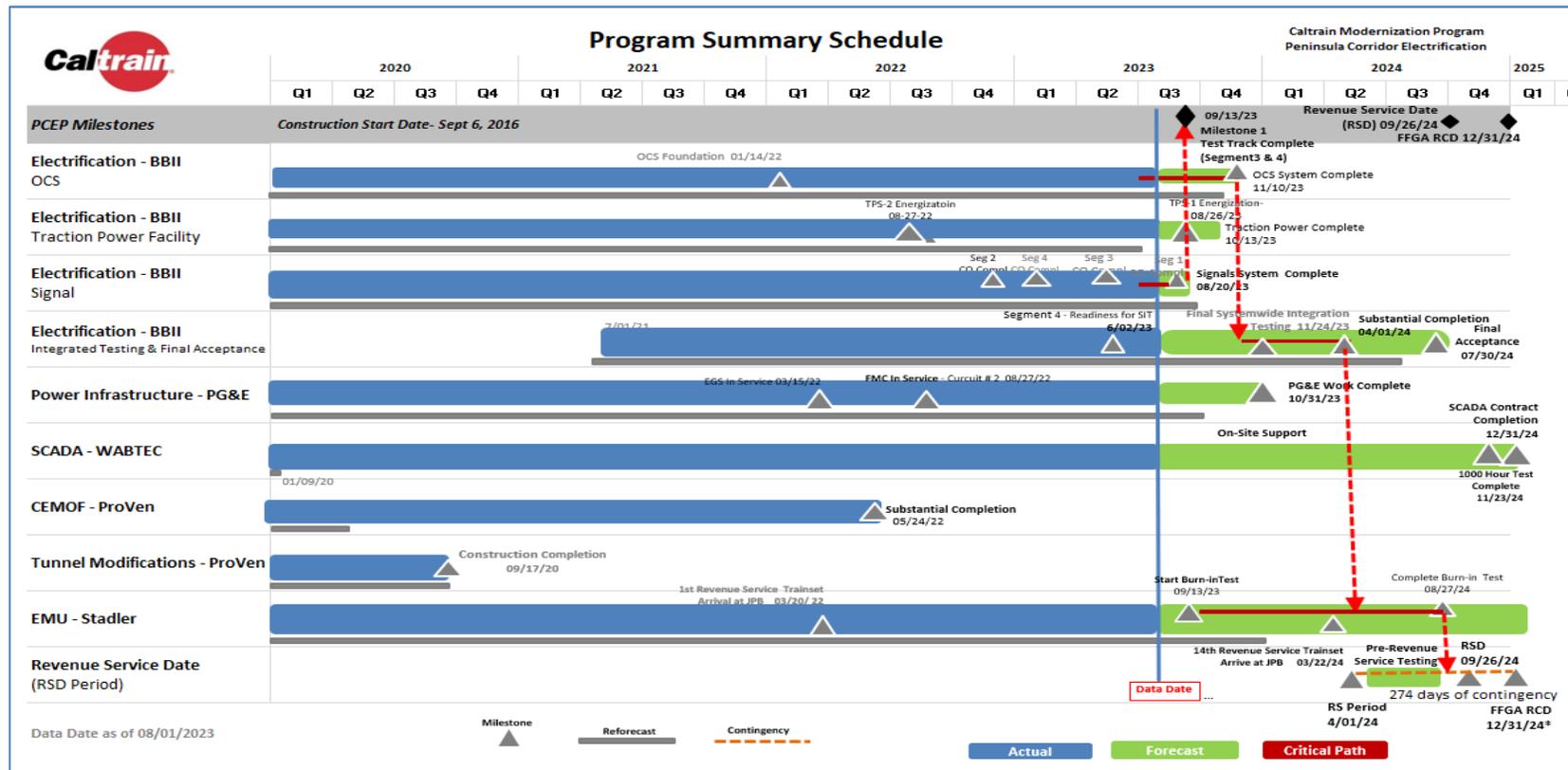
Police Departments along the corridor are currently being scheduled for electrification safety familiarization training in August.

### 3.0 IMS PROGRAM SCHEDULE

#### 3.1 Introduction

The Integrated Master Schedule (IMS) Program Summary Schedule depicted in

**Figure 3-1.** Master Program Summary Schedule shows the schedule status of the major PCEP projects. The current schedule dates for this program schedule were based on BBII’s July 2023 Progress Schedule as well as the Stadler July 2023 EMU Progress Schedule. The Revenue Service Date (RSD) remains as September 26, 2024, and Full Funding Grant Agreement (FFGA) Revenue Completion Date (RCD) remains December 31, 2024.



**Figure 3-1. Master Program Summary Schedule**





**3.3 Schedule Contract Milestone Analysis**

The current forecast for Substantial Completion of the project has moved out nine (9) days to April 10, 2024. The revised Milestone No. 1 is now forecasted to be completed on July 31, 2023. The Revenue Service Date and Revenue Completion Date remain the same as September 26, 2024, and December 31, 2024, respectively. Contractor still claims that they are being delayed by PG&E in obtaining the required designs for installing the permanent low voltage power. However, this path can be easily mitigated through the continued use of generators to provide low voltage power. The main challenge for the Contractor is to complete the requirements for Milestone No. 1 and facilitate the live run testing of the EMU trainsets.

Contractor	Milestones	Reforecast Dates (Dec 2022)	Current Dates (July 2023)	Milestone Finish Date Variance	Total Float	Remarks
BBII	Segment 4 Completion (Final Short Circuit Test Report Delivered to JPB)	05-Feb-23	31-May-23A	-115	N/A	Delayed by the failed short circuit testing which has delayed the EMU live runs within Segment 4. Note: This finish date does not include the Guadalupe Bridge scope of work.
BBII	System Integration Testing Start (Segment 4)	10-Apr-23	05-Jun-23A	-56	N/A	JPB Continues to perform SIT testing in Segment 3 and 4.
BBII	Signal Cutovers and Systems Completion	20-Aug-23	20-Aug-23	0	90	
BBII	Traction Power Substation #1 Energization	12-Sep-23	26-Aug-23	17	20	
BBII	Completion of Milestone 1 (Segments 3 and 4)	28-May-23	13-Sep-23	-107	-107	Delayed by the failures in the Segment 3 and 4 integrated testing and delays in issuing the certificate of compliance for Milestone 1. This milestone signifies that all of the structural and short circuit testing is complete, and this segment is ready for live run testing.
BBII	OCS Construction Completion	25-Oct-23	10-Nov-23	-16	36	Delayed by Segment 2 High Pot Testing (MP 26 Dumbarton to MP 29 Alma) and Punch List work.
BBII	System Integration Testing Completion	18-Nov-23	17-Dec-23	-29	5	Delayed by SC Test 4 – TPS 2 Short Circuit Test and Segments 1 and 2 Live Run Testing
Stadler	14th Trainset Arrival at JPB Site	12-Oct-23	04-Mar-24	-144	14	Delayed by Stadler experiencing multiple problems obtaining parts and subassemblies from their Suppliers. They are still committed to deliver the first 14 Trainsets by 22-Mar-24.
BBII	Scheduled Substantial Completion	01-Apr-24	01-Apr-24	0	0	
BBII	Scheduled Final Acceptance	30-Jul-24	30-Jul-24	0	0	
JPB	Revenue Service Date (RSD)	26-Sep-24	26-Sep-24	0	N/A	
JPB	FFGA Revenue Completion Date (RCD)	31-Dec-24	31-Dec-24	0	N/A	

**Figure 3-3. Contract Milestone Analysis**



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**4.0 COST AND BUDGET**

**4.1 Introduction**

This section presents an update on program cost and budget. On December 6, 2021, the JPB adopted a new Program budget of \$2.44 billion. Table 4-1 depicts a summary level of program budget, costs, and estimate at completion based on the latest update of the Electrification and EMU projects as of July 31, 2023.

**4.2 Program Budget and Cost**

**Table 4-1. Budget Summary by Project**

Description of Work	Current Budget (A) <sup>1</sup>	Cost This Month (B) <sup>2</sup>	Cost To Date (C) <sup>3</sup>	Estimate To Complete (D)	Estimate At Completion (E) = (C) + (D)	Variance at Completion (F) = (A) – (E)
Electrification	\$1,749,139,439	\$28,041,235	\$1,600,937,884	\$153,735,738	\$1,754,673,622	(\$5,534,183) <sup>4</sup>
EMU	\$693,551,258	\$7,607,941	\$523,954,475	\$164,062,599	\$688,017,075	\$5,534,183
<b>PCEP TOTAL</b>	<b>\$2,442,690,697</b>	<b>\$35,649,176</b>	<b>\$2,124,892,359</b>	<b>\$317,798,338</b>	<b>\$2,442,690,697</b>	<b>\$0</b>

1. Column A "Current Budget" includes re-baseline and executed change orders and awarded contracts.
2. Column B "Cost This Month" represents the cost of work performed this month.
3. Column C "Cost to Date" includes actuals (amount paid) and accruals (amount of work performed) to date.
4. Column F "Variance at Completion" includes forecasted transfer of contingency from EMU to Electrification project.

Table 4-2 depicts program budget, costs, and estimate at completion summarized by major elements of work. This budget table provides additional detail for the program and is broken down by major contracts for Electrification and EMU, minor contracts, real estate, utilities, project management oversight and other indirect support costs.

**Table 4-2. Budget Summary by Major Elements**

Description of Work	Re-Baseline Budget	Current Budget	Cost This Month	Cost To Date	Estimate To Complete	Estimate At Completion
Electrification	\$1,097,149,881	\$1,097,149,881	\$22,533,741	\$966,442,897	\$130,590,984	\$1,097,033,881
EMU Procurement	\$556,072,601	\$564,269,610	\$6,491,594	\$433,040,007	\$131,946,264	\$564,986,271
Minor Construction Contracts (Tunnel, CEMOF, SCADA, Non-BBI OCS)	\$67,055,072	\$68,091,194	\$120,909	\$64,896,820	\$2,427,637	\$67,324,457
Real Estate Acquisition & Support	\$34,914,177	\$34,914,177	\$45,534	\$24,441,878	\$10,472,299	\$34,914,177
PG&E, Utilities	\$132,088,994	\$132,088,994	\$453,591	\$205,635,029	-\$77,375,634	\$128,259,394
Management Oversight & Support	\$312,699,697	\$315,007,767	\$2,793,549	\$278,704,328	\$36,303,439	\$315,007,767
TASI Support	\$114,488,767	\$114,488,767	\$1,783,806	\$103,081,127	\$33,447,342	\$136,528,469
Finance Charges	\$9,898,638	\$9,898,638	\$0	\$9,454,384	\$444,254	\$9,898,638
Insurance	\$6,581,851	\$6,581,851	\$0	\$6,291,001	\$290,850	\$6,581,851
Other Required Projects & Services	\$9,084,176	\$10,484,176	\$159,526	\$5,220,260	\$5,463,916	\$10,684,176
Environmental Mitigation	\$14,438,866	\$13,038,866	\$755	\$1,249,839	\$11,589,027	\$12,838,866
Caltrain Capital Overhead (ICAP)	\$48,217,887	\$48,217,887	\$1,266,170	\$26,434,788	\$21,783,099	\$48,217,887
Contingency	\$40,000,089	\$28,458,888	\$0	\$0	\$10,414,861	\$10,414,861
<b>Total</b>	<b>\$2,442,690,697</b>	<b>\$2,442,690,697</b>	<b>\$35,649,176</b>	<b>\$2,124,892,359</b>	<b>\$317,798,338</b>	<b>\$2,442,690,697</b>

### 4.3 Program Shared Risk Pool and Contingency

Caltrain and Balfour Beatty Infrastructure, Inc. (BBII) continue implementing new mechanisms to ensure a collaborative approach to Project delivery. The management team meets every week to review the issues log focusing on risk mitigation and issues resolution.

As part of global settlement, a shared risk pool of \$50 million was established to manage risks and mitigation proactively and collaboratively with the design-build contractor. Table 4-3 shows the current shared risk drawdown for the current month and to-date as well as the remaining balance of the shared Risk Pool by Risk Category. Any shared risk items (27 Risk IDs listed below in Table 4-3) that are above \$250,000 require Change Management Board (CMB) approval.

**Table 4-3. Shared Risk Pool Status as of July 2023**

Risk ID	Risk Description	Risk Amount	Current Month	Executed to Date	Remaining Balance
1	Permanent Power Availability	\$268,572	\$0	\$178,365	\$90,207
2	Different Site Condition for OCS Foundation	\$3,500,000	\$0	\$1,217,412	\$2,282,588
3	Different Site Condition for Duct bank	\$2,800,000	\$0	\$435,798	\$2,364,202
4	Condition of existing Fiber backbone infrastructure	\$3,150,000	\$48,031	\$402,275	\$2,747,725
5	Availability of TASI Resource	\$5,777,820	\$0	\$0	\$5,777,820
6	Signal Cutover access and work window	\$5,607,150	\$0	\$0	\$5,607,150
7	Condition of existing signal system	\$538,572	\$372,416	\$507,167	\$31,405
8	EMI Nonconformance by EMU Vendor	\$750,000	\$0	\$13,184	\$736,817
9	Reed Street Cutover	\$90,000	\$0	\$0	\$90,000
10	Availability of low voltage power for cutover testing	\$1,120,000	\$0	\$1,744,137	-\$624,137
11	Third party Permits	\$150,000	\$0	\$0	\$150,000
12	SCADA integration for the entire alignment	\$159,524	\$0	\$0	\$159,524
13	Tunnel OCS Compatibility	\$167,500	\$0	\$0	\$167,500
14	Supply chain issue due to COVID 19	\$300,000	\$0	\$28,923	\$271,077
15	End to end Systems integration commissioning	\$2,100,000	\$0	\$0	\$2,100,000
16	Existing Caltrain Operating systems interface and integration	\$1,400,000	\$0	\$71,920	\$1,328,080
17	Third party Approval	\$150,000	\$14,233	\$353,277	-\$203,277
18	Impact from Caltrain other capital or third-party projects	\$2,166,683	\$191,719	\$888,836	\$1,277,846
19	Track access delay for BBII Construction	\$1,800,000	\$289,420	\$671,352	\$1,128,648
20	Additional light Maintenance and Protection Needs	\$280,000	\$0	\$164,531	\$115,469
21	Crossing Protection	\$220,000	\$0	\$102,334	\$117,666
22	Power facilities	\$500,000	\$845,576	\$845,576	-\$345,576
23	NCR's	\$0	\$0	\$0	\$0
24	Potholing	\$1,700,000	\$0	\$107,547	\$1,592,453
25	Pre-Revenue Service Operational Testing	\$250,000	\$0	\$0	\$250,000
26	TRO Contingency	\$3,000,000	\$0	\$0	\$3,000,000
27	Contingency	\$12,000,000	\$0	\$2,088,739	\$9,911,261
NA	Unidentified	\$54,179	\$0	\$0	\$54,179
	<b>BBII Risk Pool Total</b>	<b>\$50,000,000</b>	<b>\$1,761,396</b>	<b>\$9,821,373</b>	<b>\$40,178,627</b>

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In addition to the established Risk Pool with BBII, the Re-Baseline Budget includes a program contingency of \$40 million to cover non-BBII potential changes and unknowns. Table 4-4 provides a detailed status of approved transfers from contingency due to executed Contract Change Orders and approved Budget Transfers.

**Table 4-4. Program Contingency Drawdown Balance**

Change Order	Description	Current Budget Contingency	EAC Contingency
<b>Project Contingency</b>		Previously Reported Balance	<b>\$16,687,827</b>
STA-056-CCO-042	Stadler Project Time Extension	(\$8,021,124)	
BT-035C	TASI Support – Electrification (2023-2024) rev0 estimate (replaced with rev1)		\$15,000,000
BT-035C	TASI Support – Electrification (2023-2024) rev1		(\$22,039,702)
PROV-070-CLOSE	Proven Tunnels – Close out of Final Actuals		\$184,910
PROV-071-CLOSE	Proven CEMOF – Close out of Final Actuals		\$581,827
	<b>PROJECT CONTINGENCY REMAINING BALANCE</b>	<b>\$28,458,888</b>	<b>\$10,414,861</b>

Note: EAC Contingency reflects forecast contingency.

The total Program Contingency as of the December 2021 Re-Baseline Budget totaled \$90M including Allocated and Unallocated Contingency, and BBII Risk Pool. Table 4-5 summarizes the current remaining and forecasted contingency balance as of the monthly update.

**Table 4-5. Overall Program Contingency**

	Total E = (A+D)	Shared Risk Pool with BBII	Program Contingency		
		BBII Risk Pool (A)	Allocated (B)	Unallocated (C)	Subtotal D = (B+C)
PCEP Contingency	\$90,000,088	\$50,000,000	\$24,115,581	\$15,884,507	\$40,000,088
Drawn Contingency	(\$21,362,574)	(\$9,821,373)	(\$8,521,124)	(\$3,020,077)	(\$11,541,201)
<b>Remaining Contingency</b>	<b>\$68,637,514</b>	<b>\$40,178,627</b>	<b>\$15,594,457</b>	<b>\$12,864,430</b>	<b>\$28,458,888</b>
CMB Approved	(\$18,044,027)	\$0	(\$13,432,281)	(\$4,611,745)	(\$18,044,027)
<b>Forecasted Remaining Contingency</b>	<b>\$50,593,488</b>	<b>\$40,178,627</b>	<b>\$2,162,176</b>	<b>\$8,252,685</b>	<b>\$10,414,861</b>

**4.4 Electrification Design Builder Contract Incentives**

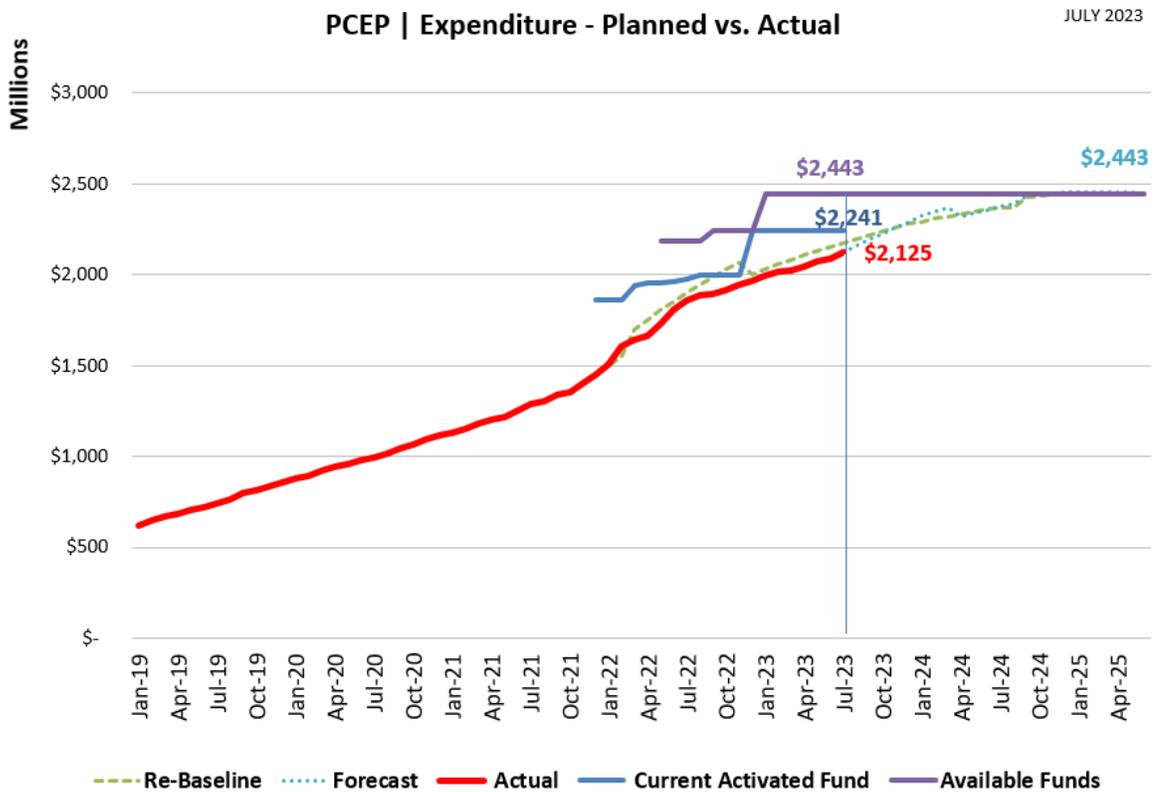
The Global Settlement with BBII also includes incentives based on Milestone completions and remaining contract incentives. Table 4-5 provides a status of Design-Build Contractor incentives Budgeted, Awarded, and remaining Balance.

**Table 4-6. BBI Incentives**

Incentives	Budgeted	Awarded	Balance
<b>Contract Incentive:</b>			
Quality	\$1,250,000	\$1,000,000	\$250,000
Safety	\$2,500,000	\$1,000,000	\$1,500,000
Community Outreach	\$2,500,000	\$2,000,000	\$500,000
DBE	\$900,000	\$0	\$900,000
<b>Total Contract Incentive</b>	<b>\$7,150,000</b>	<b>\$4,000,000</b>	<b>\$3,150,000</b>
<b>Milestone Incentive:</b>			
Early Signal and Crossing Cutover	\$4,000,000	\$0	\$4,000,000
Early Project Substantial Completion (NTE)	\$8,000,000	\$0	\$8,000,000
Early Revenue Service	\$3,000,000	\$0	\$3,000,000
<b>Total Milestone Incentive</b>	<b>\$15,000,000</b>	<b>\$0</b>	<b>\$15,000,000</b>

**4.5 Program Cash Flow and Funding**

The remaining program expenditures are cash flowed in Figure 4-1. With the award of the full funding, the program does not expect any cash flow issues due to funding.



**Figure 4.1. Expenditure – Funding Cash Flow**

4.6 Issues

Table 4-7. Cost and Funding Issues Identified, and Actions Taken for July 2023

Issues	Actions
Late receiving of PG&E \$99 million reimbursement	<ul style="list-style-type: none"><li>• Work with PG&amp;E to project reimbursement date.</li></ul>



## **5.0 CHANGE MANAGEMENT**

### **5.1 Introduction**

The change management process establishes a formal administrative work process associated with the initiation, documentation, coordination, review, approval, and implementation of changes during the design, construction, or manufacturing of PCEP. The change management process accounts for the impacts of the changes and ensures prudent use of contingency.

### **5.2 Change Orders/Shared Risk Pool**

#### **5.2.1 Executed Shared Risk**

The following Shared Risk items were executed in July 2023:

- Additional Step and Touch Potential Testing was executed on July 24, 2023, for \$116,184.
- SIA Beam Painting at SF Caltrain Station was executed on July 24, 2023, for \$14,233.
- Track Access Delays September 2022 was executed on July 11, 2023, for \$50,506.
- Track Access Delays October 2022 was executed on July 20, 2023, for \$24,724.
- Additional G&B at Santa Clara Station was executed on July 25, 2023, for \$75,535.
- TPS-2 PG & E Punchlist Request was executed on July 18, 2023, for \$94,258.
- De-coupling of the Pre-check Alarm was executed on July 18 for \$217,544.
- Track Access Delays November 2022 was executed on July 20, 2023, for \$22,072.
- Relocation of Aerial Utilities at Stanford (Construction Only) was executed on July 24, 2023 for \$154,873.
- CCO-042 Stadler Time Extension and Added Work was executed on July 6, 2023, for \$10,694,832.
- Contaminated Fiber Splice Enclosure at WPC-1 CT-0.37 was executed on July 11, 2023, for \$18,331.
- Contaminated Fiber Splice Enclosure at PS-1 CT-1.09 was executed on July 12, 2023, for \$18,311.
- TPS-1 Battery Enclosure and Materials was executed on July 12, 2023, for \$385,906.
- Contaminated Fiber Splice Closure at Intermediate Signals 16-1 & 16-2 CT-1.70 was executed on July 12, 2023, for \$11,369.
- TPS-2 Battery Enclosure and Materials was executed on July 13, 2023, for \$365,401.
- CCO 259 – Assessment of 580 Dubuque Development Impact was executed on July 13, 2023, for \$313,610.
- Track Access Delays December 2022 was executed on July 18, 2023, for \$34,956.
- Track Access Delays January 2023 was executed on July 24, 2023, for \$74,414.
- Track Access Delays for February 2023 was executed on July 24, 2023, for \$13,877.
- Track Access Delays for March 2023 was executed on July 24, 2023, for

\$69,371.

5.2.2 CMB Approved Items

- No items to report for this period.

5.2.3 Upcoming Change Orders/Shared Risk Items

- Isolation and Protection for Railroad
- EMU Convenience Outlet Modification
- Debris Pile Removal at FDN 46.1-19
- Tap Settings Change (to 26.5kv)
- Pole Recoloring at 4th & King Station
- 4th & King Flagpole Removal

5.3 Issues

**Table 5-1. Change Management Issues Identified and Actions Taken for July 2023**

Issues	Actions
Segment 4 Maintenance Option in the existing BBII Contract was never exercised. Maintenance of OCS/TPS for Milestone 1 limits (Diridon to San Antonio) will be needed once Milestone 1 is complete and once Caltrain is using it for EMU burn in under 25kV.	<ul style="list-style-type: none"> <li>• Define EMU testing and burn in work schedule – Completed.</li> <li>• BBII provides isolation and protection through September 2023.</li> <li>• Develop evaluation criteria for TASI Maintenance Service proposals.</li> <li>• Perform transition between BBII and TASI on isolation and protection service.</li> </ul>