Finance and Audit Committee Performance Metrics

Construction Package 4
Contract No. HSR 14-32

Board Meeting: Aug 2019
Data Date: 6/30/2019

Performance Metrics

- Safety
  - Authority Safety Incident Rate
  - Contractor Safety Incident Rate
- Cost
  - Design & Construction Support Cost
  - Contingency
- Schedule
  - Schedule Performance Index (SPI)
- Quality
  - Percent of Non-Conformance Reports (NCRs) Resolved
- Economic Benefits
  - Disadvantaged/Small/Disabled Veteran/Micro Business Enterprises
  - All National Targeted Workers
  - Disadvantaged Workers

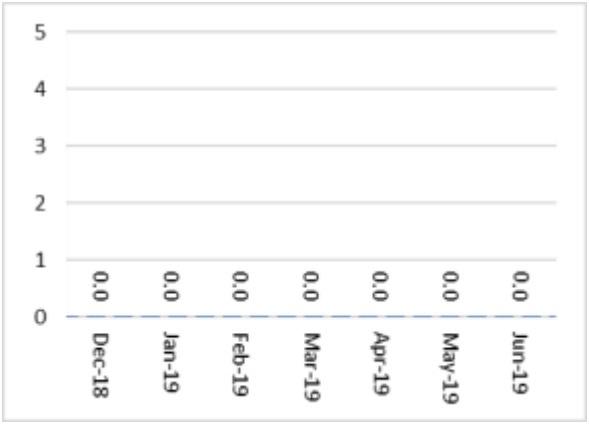
The following performance metrics for Construction Package 1, a design-build project, are intended to give the Authority's Board of Directors and other key stakeholders a high-level overview of the performance of this project.

Safety is a top priority and listed first, followed by key metrics for cost, schedule, and quality, as all are fundamental metrics for the management of the project. In addition, and in support of the business aspects of the project, three key metrics are included for economic benefits. The Authority's management team, both on the project site and at the headquarters in Sacramento, will also review other aspects of the project's performance. The Authority will track and monitor the trends of these performance metrics to proactively manage the project.

Performance Metrics

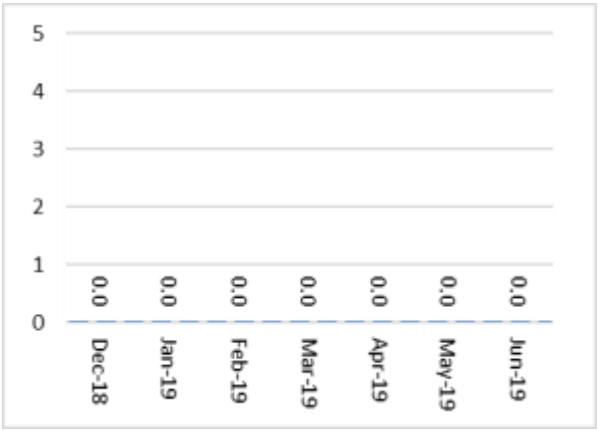
Authority Safety Incident Rate

[Number of injuries and illnesses] ÷ [Employee hours worked] * [200,000]



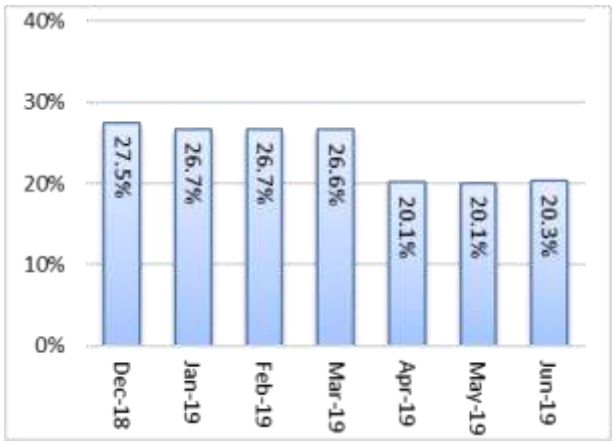
Contractor Safety Incident Rate

[Number of injuries and illnesses] ÷ [Employee hours worked] * [200,000]



Design & Construction Support Cost[1]

[Design & Construction Support Cost] ÷ [DB Invoiced to Date Amount]



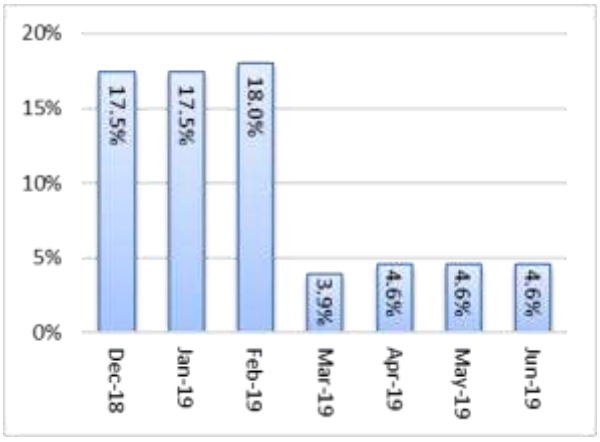
Design & Construction Support Costs (PCM Invoiced to date) = $37,843,050.80 (As of June 2019). DB Invoiced to date = $186,342,903.00 (through June 2019 using accrual estimate for May/June-19)

1. Currently at 20.3%, performance target is < 6%.

The Design-Builder production during design and construction has not matched the baseline schedule. With the DB ramping up construction work in Q2 2019, this value is expected to trend towards the performance target in 2019.

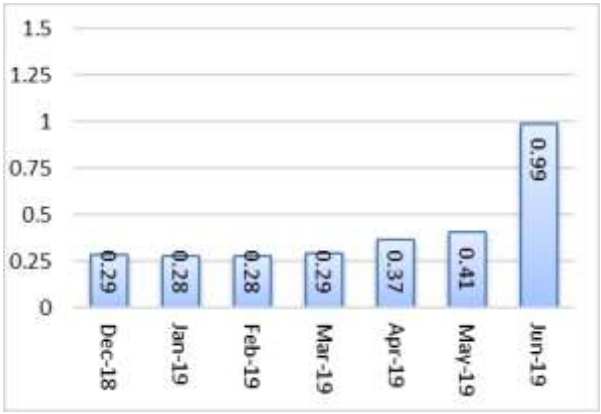
Contingency

[Remaining Contingency Value] ÷ [Remaining Contract Value]



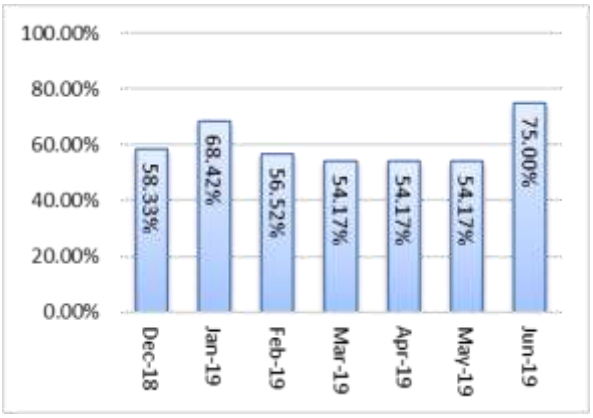
[1] Design & construction support cost includes forecasted Earned to Date value for the current period

Schedule Performance Index (SPI)
[Earned Value] ÷ [Average Planned Value]



1. Earned Value = $186,342,903 (Estimate); Planned Value = $187,342,903.
2. Currently at 0.99, performance target is >1.
3. SPI should increase as construction activity increases in Q2 2019.

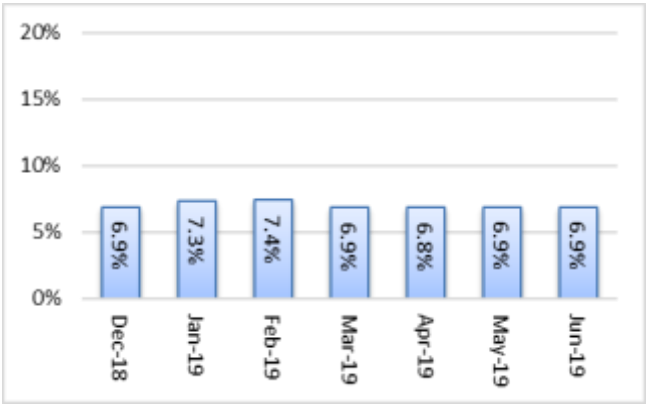
Quality - Percent of Non-Conformance Reports (NCRs) Resolved
[Resolved Non-Conformance Reports] ÷ [Total Number of Non-Conformance Reports]



Disadvantaged/Small/Disabled Veteran/Micro Business Enterprises[2]

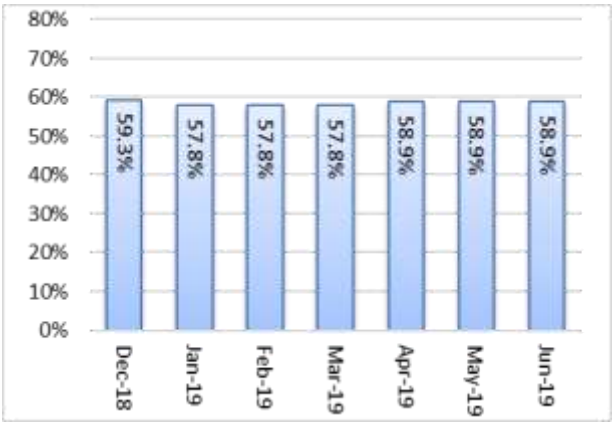
[Total Value of DBE/SBE/DVBE/MB Contracts Signed to Date with the DB Contractor] ÷ [DB Contract Value]

Goals: 10% by 1/2014, 20% by 7/2014, and 30% by 12/2016



All National Targeted Workers

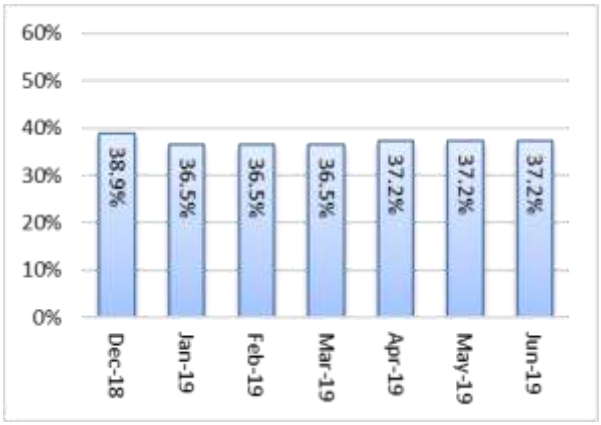
[National Targeted Worker Craft Hours to Date[3]] ÷ [Total Craft Hours to Date[2]]



[2] Most recent data published by HSR Labor and Compliance Group
[3] Estimated value

Disadvantaged Workers

[Disadvantaged Worker Craft Hours to Date[2]] ÷ [National Targeted Worker Hours[2]]



Performance Metrics – Explanatory Details

The Performance Metrics represent the period of 10/15/2013 (Notice to Proceed) to 6/30/2019.

Category	Description
Safety	**Authority Safety Incident Rate: [**Number of injuries and illnesses] ÷ [Employee hours worked] * [200,000]
Description	• The goal is to contain the incidence rate at ≤ 3.2. • Benchmark: The average incidence rate per the 2012 U.S. Bureau of Labor Statistics, U.S. Department of Labor for heavy and civil engineering construction is 3.2. • Authority (CP 4 Authority and Consultant on-site staff) has zero incidents of recordable injury or illness to date. • The Consultant staff has 8158 hours worked this month. The incidence rate represents the number of nonfatal occupational injuries and illnesses per 100 full-time workers and is calculated as: (N x 200,000) ÷ EH, where N = number of injuries and illnesses EH = total hours worked by all employees during the calendar year 200,000 = base for 100 equivalent full-time workers (working 40 hours per week, 50 weeks per year).
Safety	**Contractor Safety Incident Rate: [**Number of injuries and illnesses] ÷ [Employee hours worked] * [200,000]
Description	• The goal is to contain the incidence rate at ≤ 3.2. • Benchmark: The average incidence rate per the 2012 U.S. Bureau of Labor Statistics, U.S. Department of Labor for heavy and civil engineering construction is 3.2. • Design-Build Contractor (DB) has zero (0) incidents of recordable injury or illness to date. • Design-Build Contractor (DB) has zero construction hours worked to date. • The incidence rate represents the number of nonfatal occupational injuries and illnesses per 100 full-time workers and is calculated as: (N x 200,000) ÷ EH, where N = number of injuries and illnesses EH = total hours worked by all employees during the calendar year 200,000 = base for 100 equivalent full-time workers (working 40 hours per week, 50 weeks per year). (N = 0)
Cost	**Design & Construction Support Cost: [**Design & Construction Support Cost] ÷ [DB Invoiced to Date Amount]
Description	• The goal is to keep the support cost at ≤ 6%. • Benchmark: Transit Cooperative Research Program (TCRP) Report 138 is an industry resource for understanding soft costs and was sponsored by the FTA. Construction Administration & Management should be in the range of 5% to 6% of construction costs. • The Design & Construction Support Cost encompasses the Project & Construction Management Team (PCM) invoiced to date amount = $37,843,050.80. • The DB Invoiced to Date Amount = $186,342,903.00.
Cost	**Contingency: [Remaining Contingency Value] ÷ [Remaining Contract Value]**
Description	• The goal is to contain the contingency in the range of 10-20%. • Benchmark: As per guidelines by Federal Transit Authority cost for contingency should be in the range of 10% to 20% of construction cost during the design stage. (Note: The contingency percentage will be adjusted per FTA guidelines as design and construction move forward.) • The Remaining Contingency = [Current Allocated Contingency Amount] – [Executed Change Orders Affecting Contingency] = $14,053,002.32.

Category	Description
	• The Remaining Contract Value = [Revised DB Contract Amount] – [Authority Approved Invoices to Date] = $302,320,099.32
Schedule	**Schedule Performance Index (SPI): Earned Value (EV) ÷ Average Planned Value (PV)**
Description	• The goal is to achieve SPI ≥ 1, which is same as ≥ 100% when expressed in percent. • Benchmark: As per guidelines by PMI (Project Management Institute, World Wide) the SPI should be ≥ 1 or 100%. • At a value of 100% the Project is forecasted to complete on-time. • EV = Amount invoiced by CRB (For the purpose of this June 2019 report, an estimated value will be used as payment applications for June 2019 is pending). • PV= Planned Value • Planned Value as derived from the Current Baseline Schedule is $187,342,903 • SPI is 0.99. This reflects approved payments through May 2019. An estimated "earned value" has been established for June 2019. See note in SPI box.
Quality	**Percent of Non-Conformance Reports (NCR) Resolved: [Resolved Non-Conformance Reports] ÷ [Total Number of Non-Conformance Reports]**
Description	• Measures the effective resolution of NCRs based on percentage of NCR corrective actions approved. • The goal is to identify and approve resolution of the NCR as soon as practical. • The target rate is to stay above 85% closed. • This metric is a measure of the resolution rate of non-conforming work issues identified on the project, based on the KPI Standard organization's Heavy and Civil Engineering Construction definition. • The target rate identified is preliminary and is derived from the professional judgment of multiple construction professionals and NCR data to date. This metric will be measured and trended for refinement throughout the life of the CP 4 project and across multiple High-Speed Rail construction packages to develop a performance standard for the High-Speed Rail. • Total Non-Conformance Reports Issued to Date: 24 • Total Non-Conformance Reports Resolved to Date: 18
Economic Benefits	**Disadvantaged/Small/Disabled Veteran/Micro Business Enterprises: [Total Value of DBE/SBE/DVBE/MB Contracts Signed to Date with the DB] ÷ [DB Contract Value]**
Description	• The current goal is to achieve ≥30% • Benchmark: As the project design is refined, the DB executes DBE/SBE/DVBE/MB subcontracts for specific portions of work. The Design Builder is providing monthly progress reports for DBE/SBE/DVBE/MB utilization. This report also provides data on the commitments that have been made to date with DBE/SBE/DVBE/MB firms. The Project and Construction Management Team set goals of 30% over the course of the project. • DB is continuing its process of executing subcontracts with DBE/SBE/DVBE/MB firms. • CRB has been actively maintaining a vendor database of interested small businesses wishing to perform work on Construction Package 4; reviewing Statements of Qualifications and SB/MB/DBE/DVBE certifications for eligibility. • Given that the project is in the design phase, it is too early to measure significant DBE progress.
Economic Benefits	**All National Targeted Workers: [National Targeted Worker Craft Hours to Date4] ÷ [Total Craft Hours to Date4]**
Description	• The goal is ≥ 30% as identified in the contract. • Benchmark: The Community Benefits Agreement requires a minimum of 30% of all hours of Project Work shall be performed by National Targeted Workers. The data is officially reported quarterly and estimated monthly by the DB.

Category	Description
	• DB has 39,322 National Targeted Worker craft hours to date per CRB's 2019 1st Quarter update. • DB has 66,747 total craft hours to date per CRB's 2019 1st Quarter update.
Economic Benefits	**Disadvantaged Workers: [Disadvantaged Worker Craft Hours to Date4] ÷ [National Targeted Worker Hours to Date4]**
Description	• The goal is ≥ 10% as identified in the contract. • Benchmark: The Community Benefits Agreement requires a minimum of 10% of all National Targeted Worker hours shall be performed by Disadvantaged Workers. The data is officially reported quarterly and estimated monthly by the DB. • DB has 14,627.27 Disadvantaged Worker craft hours to date per CRB's 2019 1st Quarter update. • DB has 66,747 total craft hours to date per CRB's 2019 1st Quarter update.