



Board Report

File #: 2019-0007, File Type: Informational Report

Agenda Number: 28.

CONSTRUCTION COMMITTEE
APRIL 18, 2019

**SUBJECT: OFFICE OF THE INSPECTOR GENERAL CHANGE ORDER/MODIFICATION
CONSTRUCTION SPOT CHECKS**

ACTION: RECEIVE AND FILE

RECOMMENDATION

RECEIVE AND FILE Office of the Inspector General Change Order/Modification Construction Spot Check Report.

ISSUE

On January 25, 2018, the Metro Board directed the Office of the Inspector General (“OIG”) to conduct random spot checks on the projects listed in the quarterly program management report to ensure that the delegation of authority to approve construction Change Orders policy is performing in the manner desired by the Board of Directors.

BACKGROUND

I. SUMMARY

The OIG has developed a spot check program (“Spot Checks”) that primarily focuses on approved Change Orders and Modifications that exceed \$1 million. The Change Orders in this report were selected from the April 2019 Program Management Major Project Status Report (File # 2019-0168), covering December 2018, January and February 2019. The information for the Spot Checks was collected from the Program Management Information System (PMIS) which is the department’s database system. Also, in-person and telephonic interviews were conducted with Metro Program Management, Project Control, and Procurement staff from each individual project office.

The OIG has reviewed six Change Orders for the period of December 1, 2018, to February 28, 2019; two processed from Crenshaw/LAX, three from Purple Line Extension Section 1, and one from Westside Purple Line Extension Section 2. For this quarter, Regional Connector did not report any Change Orders above \$500,000.

We found that four of the Change Orders in this report were negotiated and executed faster than the former Board approval process would have taken, and all six were executed faster with the new delegation of authority. In addition, the negotiated cost for two Change Orders were equal to or lower

than Metro's Independent Cost Estimate (ICE) and two were higher than the ICE, but all four were lower than the contractor's proposed price. Two change orders did not have contractor's proposal or ICE. For the Change Orders/Modifications the OIG reviewed this quarter, the Spot Checks have shown that the delegation of authority has, in certain cases, resulted in:

- A negotiated amount that was reasonable for the work to be done,
- Allowing the contractor to immediately order parts and materials,
- Consultant had no overlap in schedule and was able to continue working, and
- Zero Construction delay costs.

Each Spot Check summarizes the following areas:

- Introduction of Change Order/Modification
- Facts of Change Order (charts and pictures shown on Attachment A)
- Scope of Work
- Budget
- Schedule: Time to Execute Change Order
- Recommendations

Metro's Program Control department will provide responses to the recommendations in this report to the OIG Spot Checks within 30 days after this Board report. The separate spread sheet of Recommendations and Responses is not included in this April report, but will be in the July 2019 report.

DISCUSSION

II. Spot Checks Performed in this Quarter

A. Spot Check #1 - Crenshaw/LAX Transit Project

This OIG Spot Check report concerns the Crenshaw/LAX Transit Corridor Project (Contract C0988 MOD-00402), Provisional Payments - Pending Dispute Resolution Fire Rated Cable (multiple) Change Orders.

Facts of Change Order

See Attachment A Spot Check #1 chart.

Summary #1

Scope of Work - In the last few years, beginning in January 2016, multiple Change Notices progressed into Change Orders to fund the electrical portion, more particularly the Emergency Ventilation, Emergency Lighting Systems, and the Fire Rated Cables for the Crenshaw Project. The multiple Change Orders are combined under this Modification. Previous funds were paid by Metro to purchase materials, avoid delays, and commence construction. However, agreements on labor rates, details of quality, rights and liabilities are still in dispute between Walsh Shea (the "Contractor") and the subcontractor. At this time a definitive written bilateral contract modification has not been agreed upon. Metro is willing to assist the contractor/subcontractor, with their cash flow in the

interest of project completion while a final resolution is pending. Terms and conditions have been reached whereby Metro shall advance payments to assist with their cash flow up to \$15 million.

Certain performance criteria must be met to receive a cash flow payment. The cash flow payments are advances, over and above the amounts payable for the performance of the work. The performance requirement is that Metro will make a cash flow payment for accomplishment of expedited electrical work. The expedited work is demonstrated by approved invoices for electrical related work in an amount that exceeds \$2 million in a month, with a cap of \$2 million in extra cash flow payment in that month (for example, if completed work is demonstrated in the amount of \$3 million in invoices, Metro will pay a \$1 million cash flow payment). Any month that the value of work performed is less than \$2 million no additional cash flow payment shall be made because no expedited work was performed in that month. This is the incentive to complete the work on an expedited basis. All cash flow payments are advances, and credited against any amount that may be owed when claims are settled between Metro and the Contractor on this project.

Budget - The \$15,000,000 is a separate contract Modification, above and beyond the multiple Change Orders and unilateral Change Orders which total \$5,435,471 (as of December 2018, \$1,993,568 has been paid). The first payment will be in the amount of \$5 million and subsequent months would be based on approved billing exceeding \$2 million in electrical work. Metro will make a payment for the approved amount that exceeds \$2 million with a cap of \$2 million in cash flow payments for that month.

Schedule - The new delegation process was utilized for this Modification which was executed on December 13, 2018. The negotiations began a two years ago and multiple unilateral Change Orders have not resolved the electrical construction issues. Since the execution of this \$15,000,000 incentive to perform work, the prime contractor has hired additional electrical subcontractors to expedite finishing the work. It has been reported, by Metro management, visually there are numerous amounts of electricians now working on the project.

Recommendation

1. The OIG recommends that Metro expeditiously and fairly resolve the dispute with the Contractor.
2. The OIG further recommends that a review team monitor the billings of the Contractor to validate the efficacy of the incentive program as this may become a tool for improving future performance on other projects.

B. Spot Check #2 - Crenshaw/LAX Transit Project

This OIG Spot Check report concerns the Crenshaw/LAX Transit Corridor Project (Contract C0988 MC069-16-MOD-00018), CWO 16 Construction Management Support Service (CMSS) - Additional Funding.

Facts of Change Order

See Attachment A Spot Check #2 chart.

Summary #2

Scope of Work - Funds for this Change Order are within the approved Life-of-Project budget for Crenshaw. By creating different phases for support and award, the CMSS contract allows the funds to be utilized based on evolving needs. This Modification will support the Construction Management services for the period March 1, 2019 through June 30, 2020. The consultant, Stantec has been providing field and office construction support on this project and will continue to do so, in the same manner, until the end of fiscal year 2020.

Budget - The current contract value for the Crenshaw Contract Work Order C0988 MC069-16, is \$66,330,445.72. This is an increase of \$17,661,046.63 for a total of \$83,991,492.35. This increase is based on the forecasted construction needs. Funds for this change are within the approved Life-of-Project budget.

Schedule - The new delegation process was utilized for this Modification. The Modification was executed on January 29, 2019. There are no days saved by the use of the new delegation process because this is an on-going contract. The consultant did not have a break in schedule and continues to provide construction support services.

Recommendation

None.

C. Spot Check #3 - Purple Line Extension Section 1 Transit Project

This OIG Spot Check report concerns the Purple Line Extension Section 1 Transit Project (Contract C1045 MOD-00071), Golder Gas Investigation and Report.

Facts of Change Order

See Attachment A Spot Check #3 chart.

Summary #3

Scope of Work - Modification 71 is to perform supplementary investigation and assessment of identified occurrences of concentrations and volumes of hydrogen sulfide and methane gases in the area of the intersection of Crescent Heights Blvd and Wilshire Blvd. The report shall provide a technical approach of procedures for executing gas zone delineation, installation, and pilot testing of soil vapor extraction. MOD-71 and MOD-72 are a two phase project to conduct additional subsurface investigations. MOD -71 researches and develops a mitigation plan for the geotechnical investigation and implementation of phase two (MOD-72).

The contract states the contractor needs to be prepared for gassy soils, and Metro provided both Geotechnical Baseline and Geotechnical Data Reports. This Modification was out of scope because the original scope of work did not include mitigation of gas migration. The project deemed it valuable to further investigate this particular gas area and develop means and methods for mitigating any gas migration considered to be above acceptable Cal/OSHA levels.

Budget - The award amount for this Modification is \$787,978. The contractor's proposal was

\$831,028 and the ICE was \$749,974. The award amount was \$43,050 or 5.2% below the contractor's proposal, and the negotiated award was \$38,004 or 5.1% above the ICE amount.

Schedule - The new delegation process was utilized for this Modification. The agreed upon scope of work occurred on November 5, 2018, and the Modification was executed on December 17, 2018, which was done in 29 work-days. If this Modification had gone to the Board, it would have been on the January 2019 agenda which would be 55 work-days later. The subcontractor was able to immediately begin the research and develop the report with the approval of the scope of work.

Recommendation

The OIG recommends that Metro continue to follow through the plan for mitigation of gas migration utilizing the contractor's new report of procedures where known concentrations of hydrogen sulfide and methane gases exist.

D. Spot Check #4 - Purple Line Extension Section 1 Transit Project

This OIG Spot Check report concerns the Purple Line Extension Section 1 Transit Project (Contract C1045 MOD-00072), Reach 3 Additional Gas Testing and Assessment.

Facts of Change Order

See Attachment A Spot Check #4 chart.

Summary #4

Scope of Work - This Modification is part two of a two phase project to conduct additional subsurface investigations. MOD-71 researched and developed a mitigation plan, and now MOD-72 implements the geotechnical investigation, collecting data from the monitoring vaults, and gathering of soil vapor extractions. After all data has been collected, evaluation is to take place with the "Gas Task Force Workshop (#4)" to present findings and finally the "Gas Task Force Workshop (#5)" to develop a schedule and present Mitigation Plan for Gas Migration during Tunneling.

Budget - The award amount for this Modification is \$1,697,789. The contractor's proposal was \$2,060,221 and the ICE was \$1,511,708. The award amount was \$362,432 or 17.6% below the contractor's proposal, and the negotiated award was \$186,081 or 12.3% above the ICE amount.

Schedule - The new delegation process was utilized for this Modification. The agreed upon scope of work occurred on January 9, 2019, and the Modification was executed on January 30, 2019, which was done in 15 work-days. If this Modification had gone to the Board, it would have been on the March 2019 agenda which would be 54 work-days later. The contractor was able to immediately begin the testing of gases by the end of January. No construction work-days were missed.

Recommendation

The Project Management team has noted on the Data Sheet that Lessons Learned was, "Complete gas study around the tunnel bore envelope must be done prior to bid especially when there is a high reading of potentially harmful gasses."

The OIG recommends:

1. In following the new contractor's report, Work Plan for Exploratory Program to Assess

Mitigations for Potential Gas Migration,

- a. Record all steps that were successful and those that need modification.
 - b. Have information formatted and add to Technical Specifications.
 - c. Have steps and procedures added into Lessons Learned
 - d. Incorporate these finding and procedures into any future bid process where potential gas migration and tunnel boring may occur.
2. Note under Lessons Learned where known high concentrations of hydrogen sulfide and methane gases exist, prior study and geotechnical investigation be completed and included in the bid documents.

E. Spot Check #5 - Purple Line Extension Section 1 Transit Project

This OIG Spot Check report concerns the Purple Line Extension Section 1 Transit Project (Contract C1045 MOD-00074), Additional Instrumentation (Project Wide) as requested by LABOE and STS EOR.

Facts of Change Order

See Attachment A Spot Check #5 chart.

Summary #5

Scope of Work - This Modification 74 is similar to the Construction Spot Check written for October 2018, report, to purchase and install additional instrumentation that detects settlement. Settlement due to dewatering was found to be in excess of the original Metro design criteria, original design, and calculations. The Metro has new/revised criteria that the Contactor must now use for the design and evaluation of the Support of Excavation for the Project. Because the design builder has predicted more settlement than expected, additional instrumentation has been required to help mitigate any risks associated with this settlement. Under this Modification, additional instrumentation shall be purchased (pursuant to request of City of Los Angeles), installed, monitored, and removed. The instrumentation will electronically measure and record elevation changes.

Budget - The award amount for this Modification is \$2,819,620. The contractor's proposal was \$3,997,241 and the ICE was \$2,834,865. The award amount was \$1,177,621 or 29.4% below the contractor's proposal, and the negotiated award was \$15,245 or 0.54% under the ICE amount.

Schedule - The new delegation process was utilized for this Modification. The agreed upon scope of work occurred on January 15, 2019, and the Modification was executed on February 28, 2019, which was done in 33 work-days. If this Modification had gone to the Board it would have been on the March 2019 agenda which would be 52 work-days later. The contractor was able to immediately begin ordering the additional testing equipment in March. No work-days were reported lost.

Recommendation

The OIG recommends that instrumentation bought for this project become property of LA Metro, so that future projects (remainder of the Purple Line Extension 2 and 3) will have instrumentation on hand to immediately install when Support of Excavation for those projects begin assuming the equipment remains in usable condition for future use.

F. Spot Check #6 - Purple Line Extension Section 2 Transit Project

This OIG Spot Check report concerns the Purple Line Extension Section 2 Transit Project (Contract MC072 MOD-00001), Continuation of Engineering Support Services During Construction for WPLE Sect. 2.

Facts of Change Order

See Attachment A Spot Check #6 chart.

Summary #6

Scope of Work - This Modification allows for the Construction Management Support Services (CESS) to continue for 2 years (FY19 & FY20) for the Purple Line Section 2 Project. This staff augmentation is to hire additional experts to support the construction. By creating different phases for support and award, the CMSS contract allows funds to be utilized based on evolving needs.

Budget - This Modification was negotiated and the award is \$11,996,369. The contractor's proposal was \$13,656,522 and the ICE was \$13,360,965. The award amount was 1,660,153 or 12.2% less than the contractor's proposal. The negotiated amount was \$1,364,596 or 10.2% less than the ICE.

Schedule - The new delegation process was utilized for this Modification. The agreed upon scope of work occurred on January 25, 2019. The Modification was executed on February 28, 2019, and was completed in 24 work-days. If this Modification had gone to the Board, it would have been on the March 2019 agenda which would be 39 work-days later. No days were saved by the use of the new delegation process because this is an on-going contract for construction support services.

Recommendation

None.

FINANCIAL IMPACT

The financial impacts are the expenditures from the Projects reserves as follows:

- Spot Check #1) \$15,000,000.00
- Spot Check #2) \$17,661,046.63
- Spot Check #3) \$ 787,978.00
- Spot Check #4) \$ 1,697,789.00
- Spot Check #5) \$ 2,819,620.00
- Spot Check #6) \$11,996,369.00

IMPLEMENTATION OF STRATEGIC PLAN GOALS

The recommendations that the Office of Inspector General has put forward support Metro's Strategic Plan Goal #5: Provide responsive, accountable, and trustworthy governance within the Metro organization. The OIG focuses on fraud, waste, and abuse. For each selected Change Order/Modification reviewed, the OIG evaluates if fraud, waste, or abuse is taking place. We report the background details of the Change Order, and make recommendations consistent with the OIG's Construction Best Practices report, more particularly focusing on lessons learned, improving

efficiencies, and prudent spending. Our goal is to provide rational, trustworthy information to the Board. The Office of the Inspector General will continue reporting to the Board the results of Construction Change Order Spot Checks selected from the Program Management Major Project Status Quarterly Report. The next OIG Construction Spot Check report will be in July.

Program Control and Program Management agrees to respond to the recommendations of the OIG within 30 days. The OIG continues to meet periodically to discuss reports, recommendations, and the status of implementation of recommendations, with Project Management and receive updates. The list of OIG recommendations and Metro management responses, including those for January and April, will be in the OIG July 2019 report.

ATTACHMENTS

Attachment A - Charts for Spot Checks

Prepared by: Prepared by: Suzanna Sterling, Construction Specialist Investigator, (213) 244-7368
Reviewed by: Karen Gorman, Inspector General, (213) 244-7337



Karen Gorman
Inspector General

Spot Check #1 - Crenshaw/LAX Transit Project - Contract C0988**Facts of Change Order**

<u>Description of Modification MOD-00402</u> Provisional Payments – Pending Dispute Resolution Fire Rated Cable (multiple) Change Orders	
<u>Change Order Dates:</u>	
Scope of Work approved	Dec, 5, 2018
Modification Executed	Dec. 13, 2018
<u>Elapsed Time for Executing Change Order:</u>	
Using new delegated process	0 work days
Estimate using former Board approval process	0 work days
<u>Cost of Change Order:</u>	
Metro independent cost estimate (ICE)	N/A
Contractor's proposed cost	N/A
Negotiated amount	\$15,000,000
Negotiated amount over ICE	N/A
Percentage of negotiated amount over ICE	N/A

Spot Check #2 - Crenshaw/LAX Transit Project - Contract C0988**Facts of Change Order**

<u>Description of Modification MC069-16-MOD-00018</u> CWO 16 Construction Management Support Service – Additional Funding	
<u>Change Order Dates:</u>	
Scope of Work approved	Dec. 14, 2018
Modification Executed	Jan. 29, 2019
<u>Elapsed Time for Executing Change Order:</u>	
Using new delegated process	0 work days
Estimate using former Board approval process	0 work days
<u>Cost of Change Order:</u>	
Record of Magnitude (ROM)	\$17,950,000
Contractor's proposed cost	Original contract
Negotiated amount	\$17,661,046.63
Negotiated amount over ICE	N/A
Amount negotiated under Contractors proposal	Original contract

Spot Check #3 - Purple Line Extension Section 1 Transit Project - Contract C1045**Facts of Change Order**

<u>Description of Modification MOD-00071</u> Golder Gas Investigation and Report	
<u>Change Order Dates:</u>	
Scope of Work approved	Nov. 5, 2018
Modification Executed	Dec. 17, 2018
<u>Elapsed Time for Executing Change Order:</u>	
Using new delegated process	12 work days
Estimate using former Board approval process	70 work days
<u>Cost of Change Order:</u>	
Metro independent cost estimate (ICE)	\$749,974
Contractor's proposed cost	\$831,028
Negotiated amount	\$787,978
Negotiated amount above ICE	\$38,004
Amount negotiated under Contractors proposal	\$43,050

Spot Check# 4 - Purple Line Section 1 Transit Project - Contract C1045**Facts of Change Order**

<u>Description of Modification - MOD-00072</u> Reach 3 additional Gas Testing and Assessment	
<u>Change Order Dates:</u>	
Scope of Work approved	Jan. 9, 2019
Modification Executed	Jan. 30, 2019
<u>Elapsed Time for Executing Change Order:</u>	
Using new delegated process	15 work days
Estimate using former Board approval process	54 work days
<u>Cost of Change Order:</u>	
Metro independent cost estimate (ICE)	\$1,511,708
Contractor's proposed cost	\$2,060,221
Negotiated amount	\$1,697,789
Negotiated amount over ICE	\$186,081
Amount negotiated under Contractors proposal	\$362,432

Spot Check# 5 - Purple Line Section 1 Transit Project - Contract C1045**Facts of Change Order**

<u>Description of Modification - MOD-00074</u>	
Additional Instrumentation (Project Wide) as requested by LABOE and STA EOR	
<u>Change Order Dates:</u>	
Scope of Work approved	Jan. 15, 2019
Modification Executed	Feb. 28, 2019
<u>Elapsed Time for Executing Change Order:</u>	
Using new delegated process	33 work days
Estimate using former Board approval process	52 work days
<u>Cost of Change Order:</u>	
Metro independent cost estimate (ICE)	\$2,834,865
Contractor's proposed cost	\$3,997,241
Negotiated amount	\$2,819,620
Negotiated amount under ICE	\$15,245
Amount negotiated under Contractors proposal	\$1,177,621

Spot Check# 6 - Purple Line Section 2 Transit Project - Contract PS43502000**Facts of Change Order**

<u>Description of Modification - MOD-00067</u>	
Continuation of Engineering Support Services during Construction for WPLE Section 2	
<u>Change Order Dates:</u>	
Scope of Work approved	Jan. 25, 2019
Modification Executed	Feb. 28, 2019
<u>Elapsed Time for Executing Change Order:</u>	
Using new delegated process	24 work days
Estimate using former Board approval process	39 work days
<u>Cost of Modification:</u>	
Metro independent cost estimate (ICE)	\$13,360,965
Contractor's proposed cost	\$13,656,522
Negotiated amount	\$11,996,369
Negotiated amount over ICE	\$1,364,596
Amount negotiated under Contractors proposal	\$1,660,153

Office Of Inspector General Construction Change Order Spot Check Report

Presented By
Karen Gorman
Inspector General

Construction Spot Check Program

File #
2019-0007

OIG Program Description

The OIG Spot Check program focuses on approved change orders that exceed \$1 million. The program includes:

- Review sampling of Change Orders from PMIS
- Review of Program Management's Project Status Report
- Interview Project Managers, Program Controllers, and Procurement Officers
- Review project budget, specifications, any related documentation

OIG Spot Checks focus on:

- Scope of Work
- Budget
- Schedule Comparison
- Making Recommendations

Summary of Spot Checks

Six OIG spot checks of change orders show:

- A negotiated amount that was reasonable for the work to be done,
- Allowing the Contractor to immediately order parts and materials,
- Consultant had no overlap in schedule and was able to continue working, and
- Zero Construction delay costs.

April 2019

Construction Committee

Los Angeles County Metropolitan Transportation Authority



Construction Spot Check Costs

Summary of Selected Change Order Costs

Six OIG spot checks of Change Orders / Modifications reported

2 change order for Crenshaw/LAX

- ❖ Provisional Payments – Pending Dispute Resolution Fire Rated Cables = \$15,000,000
- ❖ Construction Management Support Service – Additional Funding = \$17,950,000

3 change orders for Purple Line Section 1

- ❖ Gas Investigation and Report = \$ 787,978
- ❖ Additional Gas Testing and Assessment = \$1,697,789
- ❖ Instrumentation to Measure Settlement / Requested by City of LA = \$2,819,620

1 change order for Purple Line Section 2

- ❖ Continuation of Engineering Support Services During Construction = \$11,996,369

Construction Spot Check Schedule Comparison

Schedule Comparison: new delegated process vs. former Board approval process

PROJECT	Title of Change Order	Time Saved Executed date to Board Mtg.	NEW Delegated Process final SOW to Executed date	Former Board Approval Process
CRENSHAW/LAX	Provisional Payments – Pending Dispute Resolution Fire Rated Cable	0	0	0
CRENSHAW/LAX	CWO 16 Construction Management Support Service – Add'l. Funding	0	0	0
WESTSIDE PURPLE LINE SECT 1	Golder Gas Investigation and Report	58	12	70
WESTSIDE PURPLE LINE SECT 1	Reach 3 Additional Gas Testing and Assessment	39	15	54
WESTSIDE PURPLE LINE SECT 1	Add'l. Instrumentation (Project Wide) as Requested by LABOE	19	33	52
WESTSIDE PURPLE LINE SECT 2	Continuation Engineering Support Services During Construction	15	24	39