



Board Report

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Agenda Number: 24.

CONSTRUCTION COMMITTEE October 19, 2023

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

ACTION: RECEIVE AND FILE

RECOMMENDATION

RECEIVE AND FILE Office of the Inspector General Construction Change Order Spot Check Report for the period June 1 to August 31, 2023.

ISSUE

On January 25, 2018, the Metro Board directed the Office of the Inspector General (“OIG”) to conduct random spot checks on change orders for the construction projects listed in the Quarterly Program Management report to ensure that the CEO Delegation of Authority to approve Construction Change Orders Policy is performing in the manner desired by the Board of Directors.

BACKGROUND

The OIG's Construction Change Order Spot Check Program (“Spot Checks”) focuses on approved change orders and modifications that exceed \$500,000. The four change orders in this report were selected from the Program Management Quarterly Major Project Status, Legistar 2023-0586. The OIG gathers the data, reviews all the change orders over \$500,000 and selects change orders from the major projects. The information for the Spot Checks was collected from the Program Management Information System (PMIS) which is the department's database system. Also, virtual meetings and telephonic interviews were conducted with Metro Program Management, Project Control, and Procurement staff as necessary involved in each change order.

For each Spot Check, we summarize:

- Description of the change order,
- Change order detail,
- Scope of Work,
- Budget,
- Schedule (Time to execute the change order),
- Safety, and
- Recommendations and Lessons Learned.

Metro's Program Control department has provided informal responses to this report before its issuance and are asked to provide written responses to the recommendations in this OIG Spot Checks Report within 30 days after this Report is issued. Included with this Report is a spreadsheet on the status of responses concerning former OIG Spot Check Report recommendations (Attachment B).

DISCUSSION

Spot Checks Performed in this Quarter

Spot Check #1 - Division 20 Portal Widening Turnback Project

This OIG Spot Check report concerns the Division 20 Portal Widening Turnback Project (Contract C1136 MOD 0093), Rebar for Contact Rail Encasement.

Change Order Detail

See Attachment A Spot Check #1 table.

Summary #1

Scope - This change order is to complete work linked to the previous change order ("CO") CO-93, which first began in 2021 when Metro Engineering requested the encasement around the ductbanks to have rebar added to strengthen and protect the ductbanks. The electrical rail conduit runs through the ductbanks to supply power to the 3rd rail.

Typical ductbanks are laid directly in a trench and covered with ballast rock and soil with asphalt, or concrete placed above. Where there is a load on top, the ductbanks are required to be encased in concrete pursuant to City standards. Metro's rail cars create excess static and dynamic loading requiring additional rebar reinforcement in the concrete that is poured around the ductbank to resist these forces.

In December 2021, a limited stop work notice to the contractor was issued in order to evaluate the heavy rail load on top of the ductbanks. Four days later, the limited stop work notice was lifted after Metro Engineers confirmed the heavy load required rebar to strengthen and protect the ductbanks from damage.

This work was out of scope because rebar was not shown in the original contract documents (developed by Metro's design consultants) and thus was not added to the contractor's proposal. In February 2022, the contractor submitted a proposal and Metro issued a Not to Exceed ("NTE") change to order materials. The independent cost estimate ("ICE") was based on materials only. The full work, now completed under this modification, supersedes the original NTE of \$333,050.

Budget - This change order, previously CO-93, is now negotiated as MOD-93 for the amount of \$1,756,579. The Contractor's proposal was \$1,756,579. The negotiated price and the Contractor's proposal are equal in price. The ICE at \$402,323 was developed in January 2022 for the CO-93 which was an NTE to order materials. An updated ICE was not created for the increased amount from the NTE amount of \$333,050 to \$1,756,579 to include labor. Staff stated that funds for this change order are within the Life-of-Project budget.

Schedule - The CEO Delegation of Authority process was utilized for this change order. The Contractor and Metro agreed on the Scope of Work on May 30, 2023. The modification was awarded on July 11, 2023 and it took staff 39 workdays to complete all signature approvals. Under the prior Board approval method for change orders, assuming an August Board meeting date, it would have taken a total of 86 workdays to complete the transaction. July was a dark month.

Safety - The Division 20 Portal Widening Turnback Project has 847,468 project hours through August 2023; the Recordable Injury Rate was 2.6 (the Bureau of Labor Statistics National Average is 2.4) and the Days Away Rate (DART) was 1.40 (the Bureau of Labor Statistics National Average is 1.5).

Recommendation/Lessons Learned - The OIG recommends an updated ICE reflecting the complete work that should have been requested to aid in the negotiations with the contractor for final settlement.

A lessons learned is to evaluate ductbanks in trenches for compliance with applicable city standards and loading requirements for static and dynamic loading demands when installing these. Future design plans should include this as a requirement to check.

SPOT CHECK #2, #3, and #4

The next three spot checks involve Purple Line Extension Section 3 which has two (2) Design-Build contracts, the Tunnels contract (C1151) and the Stations contract (C1152) that will be referenced in CO-011, CO-109, and CO-110. Frontier-Kemper/Tutor Perini is a joint venture responsible for the building tunnels under Tunnels Contract C1151. The Tunnels scope is primarily tunnels and cross passage mining. Tutor Perini/O&G Industries, joint venture (TPOG) is responsible for the constructing the stations under the Stations Contract C1152. The Stations scope includes stations, trackwork, utilities, and the mechanical electrical plumbing systems.

Spot Check #2 - Purple Line Extension Section 3 Transit Project

This OIG Spot Check report concerns the Purple Line Extension Section 3 (Tunnels Contract C1151, CO-011), Extension of Time and Re-sequencing of Contract Work.

Change Order Detail

See Attachment A Spot Check #2 table.

CO-011 from the Tunnels contract is the root cause associated with CO-109 and CO-110 to the Stations contract.

Summary #2

Scope - This change order modifies the Tunnels contract by adding a 2-year extension to the contract and then re-sequences the base work to fit the new extended schedule.

During the mining process both tunnel boring machines ("TBM") had difficulty keeping on schedule with the project milestones. Each week, the production was much slower than expected which resulted in becoming 161 days behind schedule. The tunnel boring is now complete and the Stations

contractor is behind schedule. Both contractors cannot simultaneously work in the same location until the full station box hole is completely dug because of potentially serious safety implications. Therefore, there will be a suspension of work to the tunnels, stopping further work on the cross passages for the next 2 years, while station work is proceeding. Once the station box skeleton is built, the Tunnels contractor can then resume excavation of the cross passages and laying of track.

As the projects major milestones are put on hold, resequencing of work is necessary. The Tunnels contractor submitted an integrated schedule on June 28, 2023 which requested 757 calendar days under the general conditions contract (GC-29) for an extension of time. The original contract period for the work is 1,640 calendar days, and it is now extended to 2,397 calendar days.

Program Management realizes this time extension is using up much of the schedule buffer that existed and creates a concern about meeting the established deadlines for this project. They are working with both joint venture contractors to further negotiate this change order and, CO-109, CO-110 from the stations contract and accelerate work.

Budget - Results of the contractor's non-mitigation of the slow TBM boring is costing Metro \$4 million for this NTE change order alone (\$4M is for resequencing effort only- not time delay charges). The Tunnels contractor submitted an Integrated schedule in June 2023 giving both the Tunnels and the Stations contractor an extension time only and does not include a proposal for costs, and therefore an NTE CO has been issued. The ICE cannot be disclosed at this time until all parties come to an agreement on the time and scope of work. Staff continues to work with the Tunnels contractor reach a final settlement. Staff stated that funds for this change order are within the Life-of-Project budget.

Schedule - The CEO Delegation of Authority process was utilized for this change order. The Contractor and Metro have not come to a full agreement on the Scope of Work; however, both parties realize a change order was necessary and proceeded forward with an NTE value so the work could continue. A resequencing schedule was provided by the contractor on June 28, 2023 and the project team had all the documentation signed for award on July 13, 2023, which was completed in 11 workdays. Under the prior Board approval method for change orders, a September Board meeting date (August is now the 'dark' no meeting month), it would have taken an additional 53 workdays to complete the transaction for a total of 64 workdays.

Safety - The Purple Line Extension Section 3 Project has 2,827,845 project hours through August 2023; the Recordable Injury Rate was 1.41 (the Bureau of Labor Statistics National Average is 2.4) and the Days Away Rate (DART) was 0.35 (the Bureau of Labor Statistics National Average is 1.5).

Recommendation/Lessons Learned -The Tunnels contractor's inability to mitigate the slow tunnel boring production has resulted in 161 days of delay so far. The 161 days delay approval is also being sought by the Stations contractor for compensation under schedule D of Quantities and Prices, delay compensation at \$24,000 per day (as shown in spot check #3). Additionally, the Tunnels contractor is requesting compensation for re-sequencing of work for this change order to return 2 years later to complete the work, in order for the Stations contractor to begin work now. Consequently, the Stations contractor is also requesting additional funds for re-sequencing their contract work. So far, this these 3 change orders yields almost \$14 million in costs and Senior

Program Management staff are in negotiations for scheduling work.

The OIG recommends that a determination be made whether the Tunnels contractor can be held liable for any costs incurred from the Station contractor, and vice versa, when delays occur that are the responsibility of a contractor and further study potential project recovery time.

Spot Check #3 - Purple Line Extension Section 3 Transit Project

This OIG Spot Check report concerns the Purple Line Extension Section 3 (Stations Contract C1152, CO-109), Extension of Time.

Change Order Detail

See Attachment A Spot Check #3 table.

CO-109 is related to the root cause from CO-011.

Summary #3

Scope - This change order is to extend the life of the Stations contract to perform the original construction work as stated in the contract.

The Stations contract (C1152) is receiving a time extension to construct the stations. This is necessary because the Tunnels contractor took an additional 161 days longer than the contract schedule. The Stations contractor has been delayed from starting excavation on the station box and is now over 5½ months behind schedule. This change order allows the contract modification to extend Milestone 1, which is Substantial Completion from 2,520 to 2,681 calendar days and extend Milestone 4, which is Demobilization from 2,707 to 2,868 calendar days. This is 7.85 years in the future 2029-2030, well past the 2028 Olympics.

The Purple Line Extension Section 3 contract states, in schedule D of Quantities and Prices, that Metro will pay the contractor delay compensation at \$24,000 per day. This delay as previously stated is 161 days.

Budget - This Unilateral change order is for \$3,864,000. The contract rate for extension of time is at \$24,000 per day. The extension will be for 161 calendar days. The ICE was calculated at \$24,000 per day multiplied by 161 days. Staff stated that funds for this change are within the approved Life-of-Project budget.

Schedule - The CEO Delegation of Authority process was utilized for this change order. The project team had all the documentation signed for award on July 13, 2023, since the resequencing schedule was provided on June 28, 2023 (which determined the extension of 161 day was needed) the project team was able to complete all signature approvals in 11 workdays. Under the prior Board approval method for change orders, assuming a September Board meeting date, it would have taken an additional 53 workdays to complete the transaction for a total of 64 workdays.

Safety - The Purple Line Extension Section 3 Project has 2,827,845 project hours through August 2023; the Recordable Injury Rate was 1.41 (the Bureau of Labor Statistics National Average is 2.4) and the Days Away Rate (DART) was 0.35 (the Bureau of Labor Statistics National Average is 1.5).

Recommendation/Lessons Learned - Lessons Learned from previous contracts was to state a daily delay compensation rate. This action was included in this contract (delay compensation rate of \$24,000/day) and eliminates future disagreements and litigation.

Spot Check #4 - Purple Line Extension Section 3 Transit Project

This OIG Spot Check report concerns the Purple Line Extension Section 3 (Stations Contract C1152, CO-110), Acceleration and Re-sequencing of Contract Work.

Change Order Detail

See Attachment A Spot Check #4 table.

CO-110 is in conjunction with the root cause from CO-011.

Summary #4

Scope - This change order is to both accelerate the construction work at the stations and to re-sequence work to accommodate the acceleration.

The Stations contract schedule had to be reviewed. Metro requested the Station contractor accelerate the construction by working additional shifts to catch up and recover time on the project schedule. The Contractor submitted an acceleration work proposal in April 2023 to achieve a time savings up to 90 days. This initial acceleration proposal was accepted by Metro; however, the agreement on price is to be negotiated. Construction items to be accelerated include 1) bracing for support of excavation and 2) concrete placement at both the Veterans Hospital and the UCLA stations. Further negotiations on accelerating the construction work for the project to meet the timeline are currently taking place because the scheduling reserves will be used for the project completion. Both re-sequencing and work acceleration is necessary to mitigate the overall PLE-3 project schedule.

Budget - This NTE Change Order (CO-110) is for the amount of \$6,000,000 for labor, materials, and equipment charges. The Stations contractor has submitted a resequencing schedule but not a proposal of costs; therefore, an NTE change order has been issued. The ICE cannot be disclosed at this time until both the Stations contractor and Metro come to an agreement on the time and scope of work. Staff continues to work with the Stations contractor so a final settlement can be reached. Staff stated that funds for this change order are within the Life-of-Project budget.

Schedule - The CEO Delegation of Authority process was utilized for this change order. The Stations contractor and Metro have not come to a full agreement on the scope of work and an NTE change order is being issued so the work could continue. A resequencing schedule was provided by the Tunnels contractor on June 28, 2023 and this change order was complete with signature approval on July 20, 2023, which took staff 16 workdays. Under the prior Board approval method for change orders, a September Board meeting date (August is a dark month), it would have taken an additional

49 workdays to complete the transaction for a total of 65 workdays.

Safety - The Purple Line Extension Section 3 Project has 2,827,845 project hours through August 2023; the Recordable Injury Rate was 1.41 (the Bureau of Labor Statistics National Average is 2.4) and the Days Away Rate (DART) was 0.35 (the Bureau of Labor Statistics National Average is 1.5).

Recommendation/Lessons Learned - The OIG recommends Metro evaluate these three change orders in order to reduce the time impact to the schedule and increase work acceleration.

FINANCIAL IMPACT

This report does not have a financial impact on the Agency.

For all of the construction change orders reviewed, Metro states the funds are within the approved budget and will utilize the contingency funds to cover the costs from the Life of Project budget.

Spot Check #1)	\$1,354,256	Division 20 Tunnel Widening Turnback Project
Spot Check #2)	\$4,000,000	Purple Line Extension Section 3 Project
Spot Check #3)	\$3,864,000	Purple Line Extension Section 3 Project
Spot Check #4)	\$6,000,000	Purple Line Extension Section 3 Project

EQUITY PLATFORM

In the opinion of the OIG, we considered whether these change orders presented any equity related issues on their face. The OIG did not receive any data concerning community impacts. There is a low-income equity-based community near the Veteran's Hospital on Wilshire Blvd. The completion of Extension 3 will benefit veterans by transporting them to and from the Metro Station at the VA Hospital. The OIG observed no obvious disparate impacts created by these change orders on small businesses, low-income persons, or by the performance of the work in a manner that impacted a disadvantaged community beyond what is typical and usual when conducting any construction.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

The Office of Inspector General reviews large change orders over a calendar quarter and makes recommendations as appropriate to support Metro's Strategic Plan Goal #5: Provide responsive, accountable, and trustworthy governance within the Metro organization and CEO goals to exercise fiscal discipline to ensure financial stability. The OIG mission includes reviewing expenditures for fraud, waste, and abuse in Metro programs, operations, and resources. For each selected change order reviewed, the OIG evaluates whether there are red flags of fraud, waste, or abuse taking place. We report the details of the significant change orders and make recommendations consistent with the OIG's Construction Best Practices report dated February 29, 2016, more particularly focusing on lessons learned, improving efficiencies, and prudent spending.

NEXT STEPS

The OIG shall provide every quarter, an ongoing spreadsheet of recommendations to Program Control and Program Management. 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 the recommendations with Project Management, and receive updates. The list of OIG recommendations and Metro management responses is an attachment to this OIG report (Attachment B).

ATTACHMENTS

Attachment A - Change Order Details for Spot Checks in this report

Attachment B - OIG Recommendations and Responses Tracking Sheet

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