

**Board Report**

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**File #:** 2020-0010, **File Type:** Informational Report**Agenda Number:** 31.

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**CONSTRUCTION COMMITTEE  
JANUARY 16, 2020****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**

The OIG’s Spot Check Program (“Spot Checks”) focuses on approved Change Orders and Modifications that exceed \$1,000,000. The four Change Orders in this report were selected from the January 2020 Program Management Major Project Status Report (File # 2020-0001), covering September 1 to November 30, 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.

We found that all four of the Change Orders in this report were negotiated and executed more expeditiously than would have occurred pursuant to the former Board approval process, and all four were approved faster with the new delegation of authority. In addition two Change Orders were negotiated at lower cost and two were equal to the contractors’ proposed price. This quarter’s Spot Checks of Change Orders/Modifications found the delegation of authority has resulted in:

- A negotiated amount that was reasonable for the work to be done,

- Enabled the contractor to immediately order parts and materials, reducing delay.
- Contractor and was able to continue working without stoppages related to these change orders, and
- Zero construction delay costs were incurred for these changes.

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. Attachment B, included with this January report, is a separate spreadsheet of recommendations and the status of responses concerning former Spot Check recommendations.

## **DISCUSSION**

### **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-437), UG1 (H<sub>2</sub>S) Ventilation Fans - Construction.

#### **Facts of Change Order**

See Attachment A Spot Check #1 chart.

#### **Summary #1**

**Scope of Work** - This change order is to procure two tunnel booster fans to add to the underground trainways in section 1 (UG1). These fans were originally not in the scope of work. At that time, Metro staff understood that UG1 did not require any mechanical ventilation equipment because the trainway box structures meet the guidelines in NFPA 130 to require no mechanical ventilation.

Metro's Fire Life Safety Committee decided that the length of the tunnel and the level of existing gasses from multiple sources warrants improved air circulation to maintain desired air quality for the safety of maintenance workers, dictates the use of two tunnel booster fans.

**Budget** - This Modification was negotiated and the award amount is \$2,448,545. The contractor's proposal was \$2,912,415 and the ICE was \$2,237,017. The award amount was \$463,870, or 15.9%, under the contractor's proposal. The negotiated amount was \$211,528, or 9.45%, over the ICE. Staff has stated that funds for this change are within the approved the Life-of-Project budget, and unallocated contingency funds.

**Schedule** - The new delegation process was utilized for this Modification. The agreed upon scope of work occurred on July 9, 2019. The Modification was executed on September 12, 2019, and was

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completed in 48 work-days. Using the July 29, 2019 V/CM submission date, this Change Order would have gone to the September Board. The scenario of utilizing the Board for approvals on change orders would have been 57 work-days later instead of the 48 actual work-days incurred utilizing the delegated authority.

**Recommendation** - None

**B. Spot Check #2 - Regional Connector Transit Project**

This OIG Spot Check report concerns the Regional Connector Transit Corridor Project (Contract C0980 MOD-00154), Acoustical Treatments for Areas Not on Finish Schedule.

**Facts of Change Order**

See Attachment A Spot Check #2 chart.

**Summary #2**

**Scope of Work** - This change order covers the cost of additional acoustical treatments to ceilings and walls to reduce the noise and keep sound under 50 decibels as specified in the Metro Rail Design Criteria (MRDC). The original project definition documents specification indicates the acoustical treatments in specific locations, pending determination of final quantities once the design was completed. At bid time, the contractor was instructed to include the unit rates for additional acoustical treatments, in case more treatment was necessary once the design was completed.

**Budget** -The cost for this Modification is \$1,968,703. The contractor's proposal was \$1,968,703. The independent cost estimate (ICE) was also \$1,968,703 because it was based upon the same unit price listed in the contractors original bid. Staff has stated that funds for this change are within the approved the Life-of-Project budget, and unallocated contingency funds.

**Schedule** - The new delegation process was utilized for this Modification. The agreed upon scope of work occurred on September 17, 2019. The Modification was executed on October 25, 2019, and work was completed in 29 work-days. Using the September 30, 2019 V/CM submission date, this Change Order would have gone to the November Board. The scenario of utilizing the Board for approvals on change orders would have been 54 work-days later instead the 29 actual work-days incurred utilizing the delegated authority.

**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-00089), Development and On Site Validation of the Selected Gas Mitigation Option for M13.

**Facts of Change Order**

See Attachment A Spot Check #3 chart.

### **Summary #3**

**Scope of Work** - There is a potential safety concern in the M-13 zone (underground on Wilshire, about 700 feet long, between McCarty Vista and Fairfax streets) of hydrogen sulfide (H<sub>2</sub>S) and methane gas (CH<sub>4</sub>) that are present in the soil where the tunnel boring machine (TBM) alignment will be traversing. It is necessary to evaluate the current gas replenishing rate and develop an effective mitigation plan.

The change order is for the contractor to install 10 vapor extraction wells and 7 monitoring wells, analyze the resulting data, prepare plans, and make a final report to Metro.

**Budget** -This Modification was negotiated and the award amount is \$2,957,277. The contractor's proposal was \$3,126,444 and the ICE was \$2,665,860. The award amount was \$169,167, or 5.4%, under the contractor's proposal. The negotiated amount was \$291,417, or 10.9%, over the ICE.

**Schedule** - The new delegation process was utilized for this Modification. The agreed upon scope of work occurred on September 10, 2019. The Modification was executed on September 30, 2019, and was completed in 15 work-days. Using the September 30, 2019 V/CM submission date, this Change Order would have gone to the November Board. The scenario of utilizing the Board for approvals on change orders would have been 52 work-days later instead of the 15 actual work-days incurred utilizing the delegated authority.

### **Recommendation**

While the soil at every site is unique, it is possible to create a standard for testing soils for gasses. There is no current rule or technical specification within Metro criteria for extraction of CH<sub>4</sub> or H<sub>2</sub>S from the soil.

The OIG recommends after the final report is submitted by the contractor, that a technical specification for testing be developed and written into the MDRC to use in the future.

We further agree that testing to accomplish high levels of safety confidence is a prudent practice.

### **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-00090), Oil Well Investigation In Lieu of TBM Probe-Ahead.

### **Facts of Change Order**

See Attachment A Spot Check #4 chart.

### **Summary #4**

**Scope of Work** - The Geotechnical Data Report states there are 3 abandoned Chevron Oil wells in the vicinity of the tunnel alignment. The contractor has researched with DOGGR (California Department of Conservation: Division of Oil, Gas, and Geothermal Resources) and estimated the location of the existing wells. There is a potential for the TBM to hit the metal casing of the abandoned wells which could damage and stop the machine. It is Metro's responsibility to be in

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conformance with specification CON53 of the Monitoring Mitigation Reporting Plan, which states that alignment of the TBM must be clear of the abandoned wells.

In order to mitigate the potential damage and stoppage of the TBM, Metro has asked the contractor to perform a subsurface investigation by way of horizontal directional drilling and a magnetometer survey. A magnetometer detects and measures magnetism direction and strength (this is typically used by the military to detect submarines). If there is a conflict found within the tunnel space, the tunnel alignment will be redirected to avoid the existing Chevron oil well or the oil well must be removed according the current DOGGR requirements.

The contractor will prepare and submit a drill path alignment plan, geophysical investigation plan, traffic control plan, and a plan/profile with cross sections under this change order.

**Budget** -This Modification was negotiated and the award amount is \$1,868,928. The contractor's proposal was \$1,868,928 and the ICE was \$2,022,309. The award amount was equal the contractor's proposal. The negotiated amount was \$153,381, or 7.6%, under the ICE.

**Schedule** - The new delegation process was utilized for this Modification. The agreed upon scope of work occurred on August 22, 2019. The Modification was awarded on September 12, 2019, and was completed in 16 work-days. Using the August 30, 2019 V/CM submission date, this Change Order would have gone to the October Board. The scenario of utilizing the Board for approvals on change orders would have been 46 work-days later instead of the 16 actual work-days incurred utilizing the delegated authority.

### **Recommendation**

The implementation of the drilling and magnetometer survey from section 1 has been incorporated into Purple Line Extension Sections 2 and 3 contracts.

The OIG recommends that the procedures implemented for locating tanks, pipes and other abandoned waste be added to the Lessons Learned database.

The OIG further recommends that Metro evaluates whether to pursue recovery for waste removal costs under CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act, also known as Superfund. Passed in 1980). The OIG recommends that Metro's Engineering Program Management provide information on this matter to Metro's Legal department to assist in making this determination and potentially pursuing this recovery.

### **FINANCIAL IMPACT**

Report will have no Financial Impact to the agency.

#### **Impact to Budget**

For all of the Construction Change Orders, Metro states the funds are within the approved budget, and will utilize the contingency funds to cover the costs.

- Spot Check #1) \$2,448,545 Crenshaw/LAX Transit Project
- Spot Check #2) \$1,968,703 Regional Connector Transit Project
- Spot Check #3) \$2,957,277 Purple Line Purple Line Extension Section 1
- Spot Check #4) \$1,868,928 Purple Line Purple Line Extension Section 1

## **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 mission includes reviewing expenditures for 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 February 29, 2016, more particularly focusing on lessons learned, improving efficiencies, and prudent spending.

Our goal is to provide rational, trustworthy information to the Board and support the efforts of Metro management to constantly improve and refine its efforts for the benefit of the public. 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 April 2020.

## **NEXT STEPS**

The OIG shall provide every quarter, an on-going spread sheet of recommendations to Program Control. 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 October 2019, is an attachment to this OIG January 2020 report.

## **ATTACHMENTS**

Attachment A - Charts for Spot Checks

Attachment B - Tracking Sheet of OIG Recommendations and Responses

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-00437</u> UG1 (H2S) Ventilation Fans Construction	
<u>Change Order Dates:</u>	
Scope of Work approved	July 9, 2019
Modification Executed	September 22, 2019
<u>Elapsed Time for Executing Change Order:</u>	
Using new delegated process	33 work days
Estimate using former Board approval process Agenda for the September Board	58 work days
<u>Cost of Change Order:</u>	
Metro independent cost estimate (ICE)	\$2,237,017
Contractor's proposed cost	\$2,912,415
Negotiated amount	\$2,448,545
Negotiated amount over ICE	\$211,528
Percentage of negotiated amount over ICE	9.45%
Amount negotiated under Contractor's proposal	463,870

**Spot Check #2 – Regional Connector Transit Project - Contract C0980****Facts of Change Order**

<u>Description of Modification MOD-00154</u> Acoustical Treatments for Areas Not on Finish Schedule	
<u>Change Order Dates:</u>	
Scope of Work approved	September 17, 2019
Modification Executed	October 25, 2019
<u>Elapsed Time for Executing Change Order:</u>	
Using new delegated process	29 work days
Estimate using former Board approval process Agenda for the November Board	56 work days
<u>Cost of Change Order:</u>	
Metro independent cost estimate (ICE)	\$1,968,703
Contractor's proposed cost	\$1,968,703
Negotiated amount	\$1,968,703
Negotiated amount equal to ICE	0%
Amount negotiated equal to Contractor's proposal	\$0

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

<u>Description of Modification MOD-00089</u> Development and On Site Validation of the Selected Gas Mitigation Option for M13	
<u>Change Order Dates:</u>	
Scope of Work approved	September 10, 2019
Modification Executed	September 30, 2019
<u>Elapsed Time for Executing Change Order:</u>	
Using new delegated process	15 work days
Estimate using former Board approval process Agenda for the November Board	52 work days
<u>Cost of Change Order:</u>	
Metro independent cost estimate (ICE)	\$2,665,860
Contractor's proposed cost	\$3,126,444
Negotiated amount	\$2,957,277
Negotiated amount over ICE	5.4%
Amount negotiated under Contractor's proposal	\$169,167

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

<u>Description of Modification - MOD-00090</u> Oil Well Investigation In Lieu of TBM Probe Ahead	
<u>Change Order Dates:</u>	
Scope of Work approved	August 22, 2019
Modification Executed	September 12, 2019
<u>Elapsed Time for Executing Change Order:</u>	
Using new delegated process	16 work days
Estimate using former Board approval process Agenda for the October Board	46 work days
<u>Cost of Modification:</u>	
Metro independent cost estimate (ICE)	\$2,022,309
Contractor's proposed cost	\$1,868,928
Negotiated amount	\$1,868,928
Negotiated amount under ICE	7.6%
Amount negotiated equal to Contractor's proposal	\$0



ATTACHMENT B (January 2020)

OIG REPORT/ SPOT CHECK # MOD #	RECOMMENDATIONS	MANAGEMENT'S RESPONSES	COMPLETION DATE
Jan 2020 / #1 C0988-MOD-00437 Crenshaw/LAX UG1 (H2S) Ventilation Fans - Construction	none		
January 2020 #2 C0980 MOD-00154 Regional Connector - Acoustical Treatments for Areas Not on Finish Schedule	none		
January 2020 #3 C1045 MOD-00089 Purple Line Sect. 1 Development and On Site Validation of the Selected Gas Mitigation Option for M13	<p>While the soil at every site is unique, it is possible to create a standard for testing soils for gasses. There is no current rule or technical specification within Metro criteria for extraction of CH<sub>4</sub> or H<sub>2</sub>S from the soil.</p> <p>The OIG recommends after the final report is submitted by the contractor, that a technical specification for testing be developed and written into the MDRC to use in the future.</p>		
January 2020 #4 C1045 MOD-00090 Purple Line Sect. 1 Oil Well Investigation In Lieu of TBM Probe Ahead	<p>The implementation of the drilling and magnetometer survey from Section 1 has been incorporated into Purple Line Extension Section 2 and 3 contracts.</p> <p>The OIG recommends that the procedures implemented for locating tanks, pipes and other abandoned waste be added to the Lessons Learned database.</p> <p>The OIG further recommends that Metro evaluates whether to pursue recovery for waste removal costs under CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act, also known as Superfund. Passed in 1980). The OIG recommends that Metro's Engineering Program Management provide information on this matter to Metro's Legal department to assist in making this determination and potentially pursuing this recovery.</p>		

ATTACHMENT B (Oct 2019)

OIG REPORT/ SPOT CHECK # MOD #	RECOMMENDATIONS	MANAGEMENT'S RESPONSES	COMPLETION DATE
<p>Jan 2020 / #1 C0988-MOD-00437 Crenshaw/LAX - UG1 (H2S) Ventilation Fans - Construction</p>	<p>The Metro RDC was updated with 2010 ADA Standards for Accessible Design later, and after the release and execution of the Crenshaw contract. When new standards are issued all request for proposal specifications pending after that date should be reviewed for correction before release when possible.</p> <p>For request for proposals released between 2010 and 2014,(when we changed the specification and Metro RDC) the OIG recommends immediate evaluation to determine if they were also awarded based on the old pre 2010 standards to determine whether their projects might be similarly impacted.</p>	<p>Agreed</p>	
<p>Oct. 2019 / #3 C1078 MOD-00083 Purple Line Sect. 1 - La Cienega Dewatering DSC</p>	<p>The Geotechnical Baseline Report stated that the ground conditions would permit drainage of water. The OIG questions if the consultant who developed the Geotechnical Baseline Report properly interpreted the boring data. Investigation is warranted to determine if the report accurately reflects the data.</p> <p>The OIG recommends recovering part of the cost, if the investigation demonstrates that the report was erroneous. The OIG further recommends future Geotechnical Baseline Reports should include interpretation of the borings to determine within a 95% confidence level the nature of the underlying soil and the location of the water table.</p>	<p>Project reviewed the GBR and actual field data and concludes this is a DSC. There is no error and omission on the part of the consultant.</p>	
<p>Oct. 2019 / #4 C1078 MOD-00085 Purple Line Sect. 1 - Geotechnical Instrumentation: Revise Geotechnical Contingency Plan and Reporting</p>	<p>The OIG recommends if Metro believes this change order is a betterment, then Metro should complete the new "Potential Notice of Betterment" form, submit a copy to LABOE and retain a copy for negotiations at the end of the contract if not sooner. This means Metro would move forward at LABOE expense. Going forward, this "Potential Notice of Betterment" form should be completed when applicable and submitted to the LABOE prior to agreeing to move forward, thus allowing the LABOE to make the decision if the betterment is truly necessary.</p>	<p>Project concurs and will develop a Potential Notice of Betterment for LABOE.</p>	

ATTACHMENT B (July 2019)

OIG REPORT/ SPOT CHECK # MOD #	RECOMMENDATIONS	MANAGEMENT'S RESPONSES	COMPLETION DATE
<p>July 2019 / #1 C0988-MOD-00426 Crenshaw/LAX - Irrigation Water Meters, Park Mesa Medians</p>	<p>The OIG recommends this disagreement between the City of Los Angeles Public Works and LA Metro about the responsibility for the changes should be discussed and resolved.</p>	<p>This item is tied to the tree permit that included adding pavement in areas beyond the project limits, increasing the number of replacement of trees for those cut down, adding landscaped medians (which require the subject irrigation). All of the items above were discussed with City and the two parties agreed to an MOU for which the City would be paid 3.5 million to pave the street (work valued at 7.0 million plus) and that this agreement resolved the other issues mentioned above with Metro installing at its cost (medians, trees...etc)</p>	
<p>July 2019 / #2 C0980 MOD-00141.2 Regional Connector - Impacts to Support of Excavation: Decking, Utilities and Temporary Drainage</p>	<p>The OIG recognizes the age of the buildings at the site and errors of definitive drawings.  The OIG recommends to research on the front end, even drawings to confirm accuracy, to preclude issuing an expensive change order after construction has commenced.</p>	<p>There are definitely some lessons to be applied to future projects based on Regional Connector's experience with utilities. The most significant finding is the need to conduct utility condition assessments in areas where cut-and-cover construction is planned. This could be accomplished by a combination of potholing, inspection of maintenance holes/vaults and research with the utility owner. The documented age of the utility and the presence of large masonry vaults/maintenance holes, should serve as guides in the determination of whether facilities should be replaced.</p>	<p>No further action by Regional Connector</p>
<p>July 2019 / #3 C1078 MOD-00025 Purple Line Sect. 1 - Revised Low Impact Development (LID)</p>	<p>The OIG recommends that all upcoming sites where known industrial and railway activity occurred, that a full investigation of soils occurs and is stated in the Environmental Impact Statement. Performing such investigation early may result in additional early costs, but these circumstances will then become known costs of the project and may be prepared with less delay and less costs than waiting.</p>	<p>Site investigation and soil remediation was completed prior to the construction of the site. However, the original plan for the DTSC directed site cleanup was the previous owners responsibility. Due to the nature in how this property was eventually acquired in order to meet the construction schedule (imminent domain) there was no time to cleanup the groundwater issues prior to LID designs. and assess any data gaps that may have existed. Orders from the DTSC to continue remediation efforts of the groundwater, beyond Metro's planned clean up phase, pushed the environmental effort beyond a clear end date which in effect conflicted with the LID design since it would be predicted to pushing an identified contaminated groundwater plume during rain events once completed. In the future, if Metro can anticipate action to be required from outside entities (that can take significant time to develop and execute) beyond the initial environmental phase, it will request contractor to change the design prior to 60% completion to avoid major changes</p>	
<p>July 2019 / #4 MC1120 MOD-00037 Purple Line Sect. 2 - Revision to Avg Depth of Seismic Borings along Wilshire Blvd. on Tunnel Reach 5</p>	<p>The OIG commends the Engineering department for taking supplementary steps to determine additional the location of seismic fault line in relation to the track alignment for improved safety and long term structural integrity.</p>	<p>Noted</p>	<p>N/A</p>

ATTACHMENT B (April 2019)

OIG REPORT/ SPOT CHECK # MOD #	RECOMMENDATIONS	MANAGEMENT'S RESPONSES	COMPLETION DATE
<p>April 2019 / #1 C0988 MOD-00402 Crenshaw/LAX - Provisional Payments - Pending Dispute Resolution Fire Rated Cable (multiple) Change Orders</p>	<p>1. The OIG recommends that Metro expeditiously and fairly resolve the litigation 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.</p>	<p>1. Agree, different mechanisms to achieve this being considered. 2. Agree, already being implemented.</p>	<p>1. December 2019 2. Closed</p>
<p>April 2019 / #3 C1045 MOD-00071 Purple Line Sect. 1 - Golder Gas Investigation and Report</p>	<p>The Independent Cost Estimate was not an accurate representation of work stated in the agreed upon scope of work. The OIG recommends that Metro continue to follow through on the plan for mitigation of gas migration utilizing the Contractor's new report of procedures where known high concentrations of hydrogen sulfide and methane gases exist.</p>	<p>Metro is following thru on the plan. Installation of wells for field testing began in 3/19. The mitigation options draft memo, based on the field testing observations, was received 6/25. Design of a selected gas migration mitigation option, i.e. increasing the number of soil vapor extraction wells, is ongoing.</p>	<p>Completion of mitigation recommendation and implementation, is tentatively scheduled for December 31, 2019.</p>
<p>April 2019 / #4 C1045 MOD-00072 Purple Line Sect. 1 - Reach 3 Additional Gas Testing and Assessment</p>	<p>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.</p>	<p>1. Metro has the following comments: a. Plan to record this. Modifications to the testing program in field to be made as appropriate b. This is likely a unique area. A Full report on the program and recommendations is included in the work. Pending the outcome, Technical Specifications would be developed for the Project c. Agree, also see b above d. We note that investigation is in progress now to study gas migrations. Pending outcome, future bid process would include results, including incorporation in Geotechnical Investigation and Technical Requirements 2. Agree. In this instance the area was studied and fully identified/described in the bid documents. Also see 'b' above.</p>	<p>12/31/2019</p>

ATTACHMENT B (April 2019)

OIG REPORT/ SPOT CHECK # MOD #	RECOMMENDATIONS	MANAGEMENT'S RESPONSES	COMPLETION DATE
<p>April 2019 / #5 C1045 MOD-00074 Purple Line Sect. 1 - Additional Instrumentation (Project Wide) as requested by LABOE and STS EOR</p>	<p>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.</p>	<p>Metro has made several attempts in the past for Purple Line and Regional to salvage and reuse geotechnical instrumentation. However, passing the instruments between projects offer a number of challenges. These include the following:</p> <ul style="list-style-type: none"> <li>• The Design life of instrumentation equipment is limited given the temporary nature of the work.</li> <li>• Given the diminished value of the used instrumentation equipment it is often abandoned in place. An effort to salvage the equipment may result in increased costs.</li> <li>• The means, methods and performance of shoring, instrumentation and monitoring are left with the Design-builder. Dictating the used instruments would interfere with the selection of means and methods and make Metro responsible for warranting the equipment for the life of the project.</li> <li>• The technology associated with the equipment continues to evolve. Metro may then be obligating the contractor to use obsolete equipment.</li> <li>• Timing and turnover of instrumentation. The contract schedules for Regional, Crenshaw and Purple Line Sections 1, 2 and 3 all overlap. As such, the instrumentation for each project is needed at the same time.</li> <li>• Metro would need to inventory and temporary store the instrumentation equipment. There is a risk that Metro may be storing the equipment permanently or Metro may need to make efforts for their disposal.</li> </ul>	<p>Closed</p>

ATTACHMENT B (Jan. 2019)

OIG REPORT/ SPOT CHECK # MOD #	RECOMMENDATIONS	MANAGEMENT'S RESPONSES	COMPLETION DATE
Jan 2019 / #1 C0988 MOD 00335.1 Crenshaw - Cable Transmission System Update - Construction	"The OIG recommends: The schedule negotiations with the contractor be expeditiously concluded so the schedule impacts are minimized."	Not sure what this means. CO's were issued prior to MOD that obligated the contract to commence work - this mitigated schedule impacts. Response could stay as-is I suppose (with edits) as it is relatively benign in nature	Closed
Jan 2019 / #3 C1120 MOD-00026 Purple Line Sect. 2 - Santa Monica Blvd. Bus Layover Design and Construction Changes	The OIG recommends: That Operations and LADOT be provided the scope of work after requests are submitted or "no comments" are received to confirm their requests have been added into the scope prior to the release of the RFP.	Because the OIG's recommendation is for actions to be taken prior to the release of RFPs, it has been passed on to Metro Engineering for consideration in revising Policy DSGN01 DB for future projects.	Metro Engineering (Androush Danielians/ Edwardo Cervantes) have been notified. They provided the below comment: A process will be set in place that will be included in future Specs and contract language for the PE Consultant. The process will require the consultant to submit plans to all applicable agencies (including Metro). Upon receiving comments, the Consultant shall address each comment as to the disposition in a matrix/spreadsheet. The spreadsheet / matrix will then be submitted to each of the commenting agencies. That agency will then be requested to accept the project disposition (via an initial). If the agency is not in acceptance of the disposition, the Consultant via the Project shall work with each agency until that comment disposition is accepted. The final signed off matrix shall then be included in the RFP for the DB (contractor) to complete the path forward based on the agreed upon disposition.

# Office Of Inspector General Construction Change Order Spot Check Report

Presented By  
**Karen Gorman**  
Inspector General

# Spot Check Costs

## Summary of Selected Change Order Costs

Four OIG spot checks of Change Orders / Modifications reported

### **1 Change Order for Crenshaw/LAX**

❖ UG1 (H<sub>2</sub>S) Ventilation Fans - Construction = \$2,448,545

### **2 Change Order for Regional Connector**

❖ Acoustical Treatments for Areas Not on Finish Schedule = \$1,968,703

### **3 Change Order for Purple Line Section 1**

❖ Development and On Site Validation of the Selected Gas Mitigation Option for M13 = \$2,957,277

### **4 Change Order for Purple Line Section 1**

❖ Oil Well Investigation In Lieu of TBM Probe Ahead = \$1,868,928



# 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	UG1 (H <sub>2</sub> S) Ventilation Fans - Construction	9	48	57
REGIONAL CONNECTOR	Acoustical Treatments for Areas Not on Finish Schedule	25	29	54
WESTSIDE PURPLE LINE SECT 1	Development and On Site Validation of the Selected Gas Mitigation Option for M13	37	15	52
WESTSIDE PURPLE LINE SECT 1	Oil Well Investigation In Lieu of TBM Probe Ahead	30	16	46

# Spot Check Recommendations

File #  
2020-0010

#3

Purple Line Sect. 1  
Development and On  
site Validation of the  
Selected Gas Mitigation  
Option for M13

While the soil at every site is unique, it is possible to create a standard for testing soils for gasses. There is no current rule or technical specification within Metro criteria for extraction of CH<sub>4</sub> or H<sub>2</sub>S from the soil.

The OIG recommends after the final report is submitted by the contractor, that a technical specification for testing be developed and written into the MDRC to use in the future.

#4

Purple Line Sect. 1  
Oil Well  
Investigation  
In Lieu of TBM  
Probe Ahead

The implementation of the drilling and magnetometer survey from Section 1 has been incorporated into Purple Line Extension Sections 2 and 3 contracts.

The OIG recommends that the procedures implemented for locating tanks, pipes and other abandoned waste be added to the Lessons Learned database.

The OIG further recommends that Metro evaluates whether to pursue recovery for waste removal costs under CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act, also known as Superfund. Passed in 1980). The OIG recommends that Metro's Engineering Program Management provide information on this matter to Metro's Legal department to assist in making this determination and potentially pursuing this recovery.

January 2020

Construction Committee

Los Angeles County Metropolitan Transportation Authority

