

Engineering and Construction Services - Phase Two: Construction Contract Change Management Controls Should Be Strengthened

Date: June 13, 2019
To: Audit Committee
From: Auditor General
Wards: All

SUMMARY

This report presents the results of the Auditor General's audit of the Engineering and Construction Services Division.

The objective of the audit was to assess the ECS Division's contract management processes and controls over capital construction work. The audit focused on assessing the effectiveness, efficiency and economy of the management of construction and consulting contracts.

Phase one resulted in a report entitled "Phase One: Controls over Substantial Performance and Warranty Inspection Processes Should be Strengthened", which was presented to the Audit Committee on July 13, 2018.

<https://www.toronto.ca/legdocs/mmis/2018/au/bgrd/backgroundfile-117959.pdf>

Phase two of this audit, the subject of this report, focuses on change order management.

This phase two report highlights areas to improve the management of change orders in ECS contracts. Although change orders can occur on construction contracts, this report highlights the need for staff to comply with ECS guidelines and to improve oversight of change orders to ensure the City receives the best value for money. ECS has good procedural documentation and guidelines to support the change order process. However:

1. Staff did not always adhere to these guidelines. Controls over change order approvals and compliance needs strengthening.

2. Documentation was either missing or needs improving for some important areas including price negotiations, liability assessment for errors and omissions, verification of work completed, and change order support.

3. There are also opportunities to: (a) minimize design errors and omissions, and (b) where appropriate, pursue recovery for design errors and omissions.

Our audit provides a total of four recommendations to improve effectiveness, efficiency, and economy of the construction change management process.

RECOMMENDATIONS

The Auditor General recommends that:

1. City Council request the Chief Engineer and Executive Director, Engineering and Construction Services, to:

- a. establish a process and criteria to review and assess liabilities arising from third-party errors and omissions.
- b. implement enhancements to the Project Tracking Portal to track the reasons for change orders for analysis and process improvements on an ECS-wide basis.
- c. analyze the root causes for change orders, change order costs, and track recoveries from third parties on account of errors and omissions.
- d. ensure that future bridge rehabilitation project tenders are based on recent condition assessments, undertaken within five years of the construction tender preparation.
- e. formalize the implementation of the Professional Services Performance Evaluation, recently piloted by Engineering and Construction Services, to include consequences for poor performance up to and including suspension.

2. City Council request the Chief Engineer and Executive Director, Engineering and Construction Services, to:

- a. establish specific service standards for the timely approval of change directives and change orders after finalizing the scope of work and pricing.
- b. ensure that work only commences after either a change directive or change order is issued which includes a clear and documented agreement on pricing and scope. For time-sensitive changes, staff should obtain appropriate approval via e-mail and expeditiously follow-up with change order documentation.
- c. ensure that delegated signing authority limits are enforced and that each signature on a change order is individually dated.

d. establish a formal 'Record of Evaluation and Negotiation' template to internally document the negotiations with contractors over the cost of work and also the assessment of price reasonability.

e. ensure that a change directive is always issued for quantity overruns that are expected to exceed a set threshold as outlined in ECS's Capital Works Procedures Manual.

3. City Council request the Chief Engineer and Executive Director, Engineering and Construction Services, to:

a. in consultation with Corporate Finance, the Fair Wage Office, Legal Services and Purchasing and Materials Management, establish uniform labour burden rates to be used across all construction contracts.

b. ensure that change work is properly tracked and monitored for unit price, time and material, and lump-sum change orders, and that the payment is made after work has been properly verified.

c. ensure that substantial scope changes are minimized after the contract is awarded. Where it is not possible to avoid such changes, the Client Division should be fully informed of the impact of substantial scope changes on contract costs and timelines.

d. ensure that project documentation on externally managed contracts are always retained within the ECS Division.

e. measure and monitor change order costs.

4. City Council request the Chief Engineer and Executive Director, Engineering and Construction Services, to:

a. review and update the contract language relating to Specific Condition 32 to remove any ambiguity.

b. at the time of construction contract close-out, calculate the cost of engineering associated with the contract and summarize and review on an annual basis the overall cost of engineering as a percentage of construction costs with a view to evaluating whether the cost of engineering is reasonable.

c. implement edit checks into the Project Tracking Portal to prevent errors and to ensure the accuracy and completeness of important contract information such as tender award date, purchase order date, and substantial completion date. Further, these edit checks should ensure that standard contract naming conventions are used.

d. ensure that production and training data in the Project Tracking Portal are segregated to maintain data integrity.

e. develop and implement a standard procedure for transferring funds from unused tender line items to contingency through the use of change orders.

f. ensure that contingency items such as miscellaneous items, provisional items and various allowances are appropriately tagged in the Project Tracking Portal for tracking, monitoring and analysis of contingency usage.

FINANCIAL IMPACT

Implementing the recommendations in this report will likely result in cost savings and improved operations. The precise extent of any resources required or potential cost savings resulting from implementing the recommendations in this report is not determinable at this time.

DECISION HISTORY

The Auditor General's 2017 Audit Work Plan included an audit of construction contracts issued by ECS. The objective of the audit was to assess the effectiveness, efficiency, and economy of the management of construction and consulting contracts. The audit began in 2018. The audit results are contained in two separate reports.

COMMENTS

A high-level summary of the key audit findings are provided in the one-page Audit at a Glance.

The attached audit report provides the Audit Committee and members of Council with the detailed audit results and recommendations with management's response. Management has agreed to all four recommendations.

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SIGNATURE

Beverly Romeo-Beehler
Auditor General

ATTACHMENT

Attachment 1: Engineering and Construction Services - Phase Two: Construction
Contract Change Management Controls Should Be Strengthened