

Audit At A Glance

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

WHY THIS AUDIT MATTERS

The City has a large and complex construction portfolio that needs to be managed effectively, efficiently and economically by the Engineering and Construction Services Division (ECS). Between 2013 and 2017, ECS spent \$460M annually on capital projects. Change orders represent up to 10% of this cost. It is very important to ensure that changes are justified, and that change order costs are reasonable.

BY THE NUMBERS

- \$2.3B in construction and consulting costs, 2013-2017
- \$222M (or 10%) in change orders
- \$341M spent on consultants and \$186M on internal staffing costs
- 90 change orders (10 contracts) for \$9.6M reviewed
- 165 control deficiencies noted
- 51% of change orders had design errors
- 36% of change orders did not have approval prior to work commencing
- 9 change orders for \$1.1M did not follow proper delegation of authority

BACKGROUND

ECS provides specialized engineering and construction services to internal clients including Toronto Water, Transportation Services, and Solid Waste Management Services, and external clients such as the development industry and utility companies.

ECS's capital program has grown over the years with more projects delivered each year. ECS delivered \$466M in capital projects in 2015, \$491M in 2016, and over \$500M in 2017. For these projects, ECS uses in-house resources and external consultants who provide design and contract administration services.

WHAT WE FOUND

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:
 - minimize design errors and omissions, and
 - where appropriate, pursue recovery for design errors and omissions.

Number of Issues Noted in 90 Change Orders (CO) Reviewed

Issue	# of instances	% of change orders with issues
CO due to design error & omission	46	51% **
CO approved after work commenced or completed	32	36% *
Price negotiation & reasonability check not documented	21	23% **
Delegation of signing authority not followed	9	10% *
Work verification not available	9	10% *
Scope change resulting in CO	7	8% **
CO splitting	6	7% *
Invoices not obtained from the contractor to verify third-party costs	3	3% *
Pricing dispute due to not finalizing CO price prior to commencing work	4	4% *
Work completed without authorization	3	3% *
Other issues	25	28% **
Total Instances Noted	165	

* Non-compliance with policies and procedures (avoidable)

** Process improvement needed

HOW RECOMMENDATIONS WILL BENEFIT THE CITY

Implementing the four recommendations will improve the controls over oversight of construction contracts and ensure the City receives the best value for money.