



OFFICE OF THE
City Auditor

Change Order Process Audit

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The Office of the City Auditor conducted
this project in accordance with the
*International Standards for the
Professional Practice of Internal Auditing*

Change Order Process Audit

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Change Order Process Audit

1. Introduction

The City of Edmonton enters into a significant number of contracts each year for the external provision of a wide variety of goods, services, and construction. Changes to these contracts are inevitable, due to the many unknown factors at the time the contracts are awarded. Managing these changes effectively is important to ensure that the City obtains value from its contracts.

The Office of the City Auditor (OCA) included an audit of the City's Change Order Process in its *2015 Annual Work Plan*.

2. Background

Once the City has entered into a contract, the contract manager (i.e., a City employee working in the Departments) can use a change order¹ to:

- Add funds to a contract or use an existing option to renew;
- Modify the timeline of a contract;
- Add or remove work;
- Adjust prices; and,
- Execute other changes (e.g., replacing a named resource on a contract).

However, using change orders also opens the City up to the risk of overpaying suppliers or not obtaining the best value from its contracts, as well as potential regulatory or legal exposure.

The proper use of change orders is the responsibility of the contract manager; however, they are supported by Corporate Procurement and Supply Services Branch (CPSS) staff.

Currently, the City does not have a policy or directive specific to the use of change orders. The City's Corporate Centre for Project Management does provide some guidance for change management for large complex construction projects. There is also some guidance for changes to Professional Services Agreements (PSAs) provided by CPSS.

The total value and the total number of change orders issued by the City are not currently available. At the time of this audit, the OCA was not able to obtain this

¹ Where the term "Change Order" is used in this report, it is intended to represent all types of contract changes including Amending Agreements (where a formal agreement exists), Purchase Order (PO) Change Orders (where the PO is the contract), and internal changes to Purchase Orders (for changes that are not communicated to suppliers).

information due to the fact that the City does not maintain change order information in a way that is reportable via the City's financial system (SAP). When the financial and purchasing modules of the system were implemented in 1996, reporting of change orders was not identified as a requirement. However, effective January 1, 2016, CPSS began capturing additional procurement-related information (including change order information) using a new supplier performance application. This will enable corporate reporting and monitoring of change orders in the future.

As well, the Financial and Corporate Services Department, on behalf of the City, is leading the Corporate Procure to Pay and Contract Management Review Project in 2016. As part of this project, CPSS is developing a new Contract Management Directive, Procedure, related guidance, training, and compliance monitoring processes. These are expected to include clear guidance regarding the authorization and use of change orders.

3. Audit Objective, Scope, and Methodology

3.1. Audit Objective

The objective of this audit was to determine if the City has effective change order processes that support best value.

3.2. Audit Scope

The scope of this project included all contracts (complete and in-progress) with change orders in the period of January 2014 through October 2015. In order to conclude on the objective, we reviewed the change orders on a sample of contracts from this time period.

3.3. Audit Methodology

Sample

We judgementally chose a sample of 25 contracts with change orders to review. This sample size does not allow us to generalize our findings over the entire population of contracts with change orders².

In total, the 25 contracts we reviewed had 88 change orders worth approximately \$269 million. The list of the contracts we reviewed is included as Appendix A.

We chose contracts to ensure a mixture of procurement methods and responsible departments. Table 1 shows the number of contracts we reviewed by procurement method and the number by department.

² In order to have a representative sample, we would have to look at over 200 contracts. The time and resources required to do this type of analysis would be prohibitive.

Table 1 – Number of Contracts Reviewed by Procurement Method and by Department

	# of Contracts in Sample
Procurement Method	
Publicly Tendered	13 (52%)
Sole Source ³	9 (36%)
Single Source ⁴	3 (12%)
TOTAL	25 (100%)
Department:	
City Operations	13 (52%)
Integrated Infrastructure Services	7 (28%)
Sustainable Development	2 (8%)
Financial and Corporate Services	2 (8%)
Communications and Public Engagement	1 (4%)
TOTAL	25 (100%)

Also included in the sample were the Walterdale Bridge Replacement⁵ and two other consulting contracts for large capital projects.

Criteria

In order to review the effectiveness of the change order process, we require audit criteria against which to assess the City's practices. Typically audit criteria are developed from the documented policies, directives, and procedures that describe the expectations of the City for this type of work.

At the time of this audit, the City did not have a corporate process relating specifically to the use and authorization of change orders for all types of contracts. Therefore, we developed the criteria, based on our assessment of risks relating to change orders. We determined that in order for there to be an effective change order process we would expect that all change orders are:

- Adequately justified and reasonable;
- Supported by adequate documentation;
- Properly authorized; and,
- Properly recorded.

³ Sole Source - Where there is only one source of supply within the marketplace which can provide the good, service or construction.

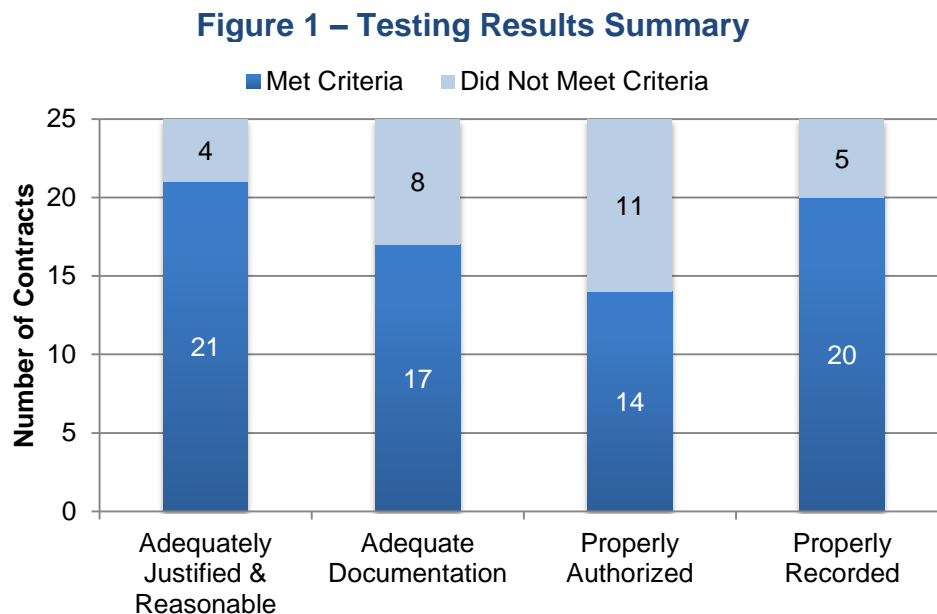
⁴ Single Source - Where a business decision is made by the Department to use a single source of supply when other sources exist within the marketplace.

⁵ As indicated in our March 31, 2015 *Proactive Audit Involvement in Capital Projects* Report.

4. Observations

The results of our testing shows that, despite the City not having a corporate process relating specifically to the use and authorization of change orders, the change orders in the majority of the contracts we reviewed met each criterion. However, a number of the contracts did have at least one change order that did not meet one or more of our criteria. Our findings point to areas where the effectiveness of the change order process could be improved to help ensure the City is achieving the best value from its contracts.

Figure 1 shows the number of contracts in our sample with change orders that met and did not meet each of the criteria.



The remainder of this report discusses the results of our testing relating to each of our criteria, including a description of the criteria.

4.1. Adequately Justified and Reasonable

Criteria

To assess if a change order was adequately justified and reasonable we determined if:

- There was a legitimate or valid reason for the change (adequately justified).
 - Examples:
 - For the agreement the City has with the supplier of DATS buses, City staff used a change order to increase the total value of contracts to accommodate the purchase of 25 additional buses.
 - For the agreement the City has to purchase bus shelters and parts, City staff used a change order to exercise the option to extend the agreement for the first of six one-year options.

- The amount and type of work being added relate to the original contract, but was not included in the original contract (reasonable).
 - Example:
 - For the City's agreement for shaft repairs at the 99 Street LRT access shaft, City staff used a change order to include additional repairs discovered after the contractor had removed the unsound concrete per the contract.
- The amount and type of work being added could not reasonably have been anticipated at the time the original contract was awarded (reasonable).
 - Examples:
 - The City has an agreement for the purchase of TV advertising. City staff used a change order to increase the value of the contract because there were going to be more than the expected number of campaigns.
 - For the agreement the City has to have private property cleaned-up, City staff used a change order to increase the value of the contract to pay for the higher than expected number of nuisance properties requiring clean-up.
- The dollar value of the change order was supported (reasonable).
 - Examples:
 - In the agreement the City has with the engineering company for the Walterdale Bridge replacement, one of the change orders had 18 line items. Each line item had a quote from the engineer for the costs associated. The total of these agreed to the total value of the change order.
 - In the agreement the City had to build Lee Ridge Park, City staff used a change order to increase the value to the contract in order to purchase additional required sod. The quoted price for the sod agreed to the change order value.

Risks

When change orders are not adequately justified and reasonable there is a risk that the City will not get the best value for additional work done, as tendering the work may have resulted in cost savings. As well, contract managers can avoid trade agreement restrictions that require contracts to be tendered by using a change order to contract for new work. There is also a potential to over pay for changes if the increase in value is not supported.

Observations

We found that the change orders used in 84 percent of the contracts we reviewed were adequately justified and reasonable. There were 4 contracts that had change orders that did not meet our criteria to be considered adequately justified and reasonable.

For one of these contracts we assessed that the reason for the change was not legitimate or valid (i.e., not adequately justified) and the dollar value of the change order

was not supported (i.e., the dollar value of the change order is not reasonable because it is not in line with quotes provided by contractors or estimates done by the City).

In the other three contracts the reasons for the change orders were legitimate, but the dollar value of the change orders were not supported. As well, one of these three also had a change order that was not reasonable because it was for new work.

Even though most contract managers ensured their change orders were adequately justified and reasonable, without proper guidance on when to use and when not to use change orders there is still a risk that the City will not get the best value from the contract.

To ensure all change orders are adequately justified and reasonable the City should develop corporate guidance on the use of change orders. **Recommendation 1**

4.2. Adequate Supporting Documentation

Criteria

We assessed the supporting documentation for each change order to ensure the contracting department or CPSS retained relevant information in an organized paper or electronic file. Relevant information will vary between contracts but should include:

- The original executed contract;
- A copy of the signed change order;
- Correctly completed and authorized approval documents (requisitions, etc.);
- Evidence of supplier approval (if required);
- Support for the reasonableness and justification of each change order (e.g., quote from supplier and emails showing contract requirements have been met); and,
- Support for the change order value and timelines included in SAP.

Risks

When adequate supporting documentation is not retained it can be difficult to demonstrate if a consistent change order process was followed, a reasonable decision was made, or compliance with required contract administration policies. As well, the City may not be able to provide supporting evidence during a dispute with suppliers (e.g., signed copies of agreements by suppliers and the City).

Observations

We found that the change orders used in 68 percent of the contracts we reviewed had adequate supporting documentation. There were 8 contracts that had change order files that did not meet our criteria for adequate supporting documentation. Table 2 shows a summary of the number of contracts that did not meet our criteria and why.

Table 2 – Inadequate Supporting Documentation Testing Summary

Reason	# of Contracts
1. All required documentation was found, but it was not kept in an organized paper or electronic file.	2
2. File did not include all relevant information.	5
3. The documents used to obtain approval for the expenditures relating to the change order were incorrectly completed.	1

We found that the level of documentation maintained by contract managers and CPSS staff was not always consistent. Consistent record keeping is important in order to demonstrate the transparency and adequacy of the decisions and processes for change orders. To ensure key change order records are kept consistently, the City should develop a solution to ensure the appropriate amount of documentation is kept for each change order file (e.g., a checklist). It should also be clear what documentation CPSS will retain and what documentation is the responsibility of the contract manager to retain. **Recommendation 1**

4.3. Properly Authorized

Criteria

To assess if a change order was properly authorized we determined if:

- The expenditure amount or change to the contract was authorized.
 - As long as there was evidence of review and approval of the value of the change order and any changes to the contract, we considered the change order to have been authorized. Evidence of review and approval could come in many forms (e.g., signature on payment requisition or amending agreement, email, or memo).
- The expenditure amount or change to the contract was authorized by someone with the proper authority.
 - As there is no corporate guidance specific to authorizing changes to contracts and expenditures due to change orders, we developed criteria based on the City's policy relating to procurement and the City's delegation of authority, which flows from the City Manager and identifies the authority to procure goods and services and enter into contracts.
- The work relating to the change order was started after the change order was approved.
 - For example, during a construction project if a change order was used to increase the scope of work on a project, we ensured that the date that the

change order was first approved by the City was before the date of the first invoice relating to the new work.

Risks

When change orders are not properly authorized, accountability and responsibility for contract costs, timing, and quality (depending on the nature of the change order) may be impacted. Also, unauthorized change orders may lead to unnecessary work being performed.

Observations

We found that the change orders used in 56 percent of the contracts we reviewed were properly authorized. There were 11 contracts that had change orders that did not meet our criteria for being properly authorized for the following reasons:

- Two contracts had change orders where the value of the change orders were not authorized;
- Four contracts had change orders where the value of the change orders were not authorized by someone with the proper authority (based on our criteria);
- Four contracts had change orders where work started before the change order had been approved by the appropriate person; and,
- One contract had one change order where the value of the change order was not authorized, two where the value of the change order was authorized, but not by someone with the authority level from our criteria, and two where work started before the change order was approved.

We also found that the values of the change orders were not authorized consistently across the organization. The forms provided to approvers are different (requisition forms), and the method for obtaining approvals are different (signature, email, memo, etc.) depending on the Branch and Department.

A potential reason for the inconsistency is the lack of clear guidance that specifically relates to the approval of change orders. There is also a lack of guidance for dealing with exceptions, such as situations where waiting to obtain proper approval would result in additional costs to the City. **Recommendation 1**

4.4. Properly Recorded

Criteria

The details for a change order must be properly documented in order to have a record of the contract that is accurate and complete. To assess if a change order was properly recorded we determined if:

- The total value of the change order(s), added to the base contract amount, matched the revised contract amount in SAP. This included ensuring that the approved change order amount matched what was recorded in SAP.
- The date until which the contract is valid in SAP matches to the change order (if applicable).

Risks

There is a risk that an error in SAP could increase the value of the contract and result in unauthorized contract payments. Management believes that this risk is low given that it is mitigated by the invoice review and verification that occurs prior to payment, which may catch any potential overpayments. As well, if the date the contract is valid until is not correct it could affect being able to pay the supplier.

Observations

We found that the change orders used in 80 percent of the contracts we reviewed were properly recorded in the City's financial system. There were 5 contracts that had change orders that were not properly recorded. This was because the total value of the change order(s), added with the base contract amount, did not match the revised contract amount in SAP. As well, the approved change order amount did not match what was recorded in SAP. The risk associated with overpayment for these discrepancies is fairly low as the dollar values are less than \$130,000 and in two cases the amount recorded in SAP is actually less than the value of the contracts.

5. Conclusion and Recommendation

The lack of an established process and controls, specifically related to the use and approval of change orders made it challenging to assess the effectiveness of the City's change order process in obtaining best value. We developed criteria that would provide us with indicators of possible areas of risk to the effectiveness of the change order process. We found that in the current environment there is more risk related to having change orders that are properly authorized and that have adequate supporting documentation than of them not being adequately justified and reasonable or not properly recorded.

Using change orders also opens the city up to the risks of overpaying for goods, services, and construction or not obtaining the best value from its contracts, as well as potential regulatory or legal exposure.

Management has already recognized that there are risks with the current process and has begun to develop a new Contract Management Directive, Procedure, related guidance, training, and compliance monitoring processes that will include clear expectations regarding change orders.

We agree that the development of a control framework will help to reduce the risks in the current change order process.

Recommendation 1 – Change Order Process

We recommend that the City Manager develop a process and controls for the use and authorization of change orders in consultation with Corporate Procurement and Supply Services (CPSS) Branch staff, Department staff, and the staff in the City's Corporate Centre for Project Management. Specifically the new Directive, Procedure, related guidance, training, and compliance monitoring processes should address these issues identified in our testing:

1. Guidance (including examples) for when a change order can be used and when it should not be used.
2. A solution to ensure change order file documentation is complete and consistent.
3. Guidance specifically relating to approval requirements for change orders (expenditures and contract changes).
4. Standardized templates for obtaining approval for funding of change orders.
5. Methods to approve change orders in a timely manner so as to not delay projects or cost the City money.

Management Response

Action Plan:

Administration accepts the Office of the City Auditor recommendation related to improvements to the City's change order processes.

Late in 2015, City Administration initiated a Procure to Pay and Contract Management Transformation project to review and revise corporate procurement, contract management (including change orders) and payment practices at the City of Edmonton to align with evolving public sector best practice and to respond to improvement opportunities raised in this and other recent audits.

Project Goal & Objectives

The goal of this project is to review and implement enhancements to the City of Edmonton's procurement, contract management and payment activities with the goal of:

1. Increasing compliance of procurement, contract, supplier management and payment practices in a consistent manner across the Corporation.
2. Achieving higher corporate outcomes associated with procurement, contracting and payment activities.

As part of this project, change orders are being addressed within the Contract Management stream of activities. Administration will develop a contract management Directive, Procedure, related guidance, training, and compliance monitoring processes aligned with the above goals and Change Order audit recommendation.

Planned Implementation Date:

1. Interim contract management training delivered to 200 City staff in project/contract management roles (June 30, 2016)
2. Contract Management Directive & Procedure, including guidance and file documentation requirements, developed & approved by CLT (Dec 31, 2016).
3. Contract Management training program developed within City of Edmonton School of Business (Q1, 2017 curriculum development complete, Q2, 2017 initial delivery complete)

Responsible Party:

Branch Manager, Corporate Procurement and Supply Services (with support from the Corporate Centre for Project Management within the Integrated Infrastructure Services Department & Human Resources for training program).

Appendix A - Sample Contracts

Contract Name	Procurement Method	# of Change Orders
City Operations Department		
DATS Buses	Tender	14*
Utility Tractor 4x4	Tender	11*
Maintenance Agreement PA/VMS System	Sole Source	7
City of Edmonton Bulk fuels	Tender	5
Supply, Deliver, & Installation of a Hot Asphalt tank	Tender	3
Daytec Bus Shelter & Parts	Sole Source	3
PSA - Communication Support for Drainage Services Organizational Design	Sole Source	2
Edmonton Transit and Peace Officer Uniforms	Tender	2
Facility Belt Magnet Chute Retrofit	Tender	2
PSA - Tweddle Place Living Wall	Sole Source	1
Refilled Stormfilter Cartridges	Sole Source	1
ETS Operator Recruitment Pre-screening	Sole Source	1
99 Street LRT Access Shaft Repairs	Sole Source	1
Communication and Public Engagement Department		
Advertising Services	Sole Source	4
Financial and Corporate Services Department		
Financial Land Development Advisor	Single Source	1
Point of Sale (POS) Equipment and Services	Single Source	1
Integrated Infrastructure Services Department		
PSA - Fort Edmonton Footbridge & Trails: Design Services	Sole Source	7
PSA - Design Columbaria at Mount Pleasant Cemetery	Tender	3
Lee Ridge Park Redevelopment	Tender	2
PSA - Electricity Purchase Replacement Contract Project	Single Source	2
PSA - Walterdale Bridge Replacement	Tender	2
PSA - Stony Plain Road over Groat Road Bridge	Tender	2
PSA - Zoo Entry and Wander	Tender	1
Sustainable Development Department		
Clean Up Private Property	Tender	7
PSA - The Capital City Downtown Community Revitalization Levy (CRL) Plan	Tender	3

* Change orders are mainly due to adjustments in unit prices and renewals of agreements, not to increase the value of the contracts.