



City of Edmonton
Office of the City Auditor

Electrical Services Contract
Management Audit

May 31, 2021



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Report Highlights	Report Summary	2
	Background	4
	Roles and Responsibilities	8
	Invoice Validation	10
	Monitoring Contractor Performance	13
	Enforcing the Terms and Conditions of the Contracts	18
	Conclusion	22

Audit Objectives

The objectives of this audit were to determine if the City is:

1. Receiving value-for-money from its electrical services contracts.
2. Effectively managing its electrical services contracts.

Scope and Methodology

The scope of the audit included all information, documentation and systems related to managing the City's electrical services contracts. This includes the Electrical Services Agreement and the electrical services standing agreements. This audit evaluated the work completed by Traffic Operations and Building Great Neighbourhoods Infrastructure Delivery sections as they relate to the use of the electrical services contracts.

Items not in scope of this audit were the previous Transportation Systems Electrical Services Agreement and we did not examine the quality of work completed by electrical services contractors.

The methodology for this audit included:

- Reviewing the terms and conditions of the electrical services contracts.
- Conducting staff interviews.
- Obtaining and reviewing process documentation.
- Reviewing a sample of invoices from October 1, 2019 to September 30, 2020.
- Calculating metrics to compare electrical services contracts and contractor performance.
- Obtaining and reviewing reports provided by the contractors.

Statement of Professional Practice

This project was conducted in accordance with the International Standards for the Professional Practice of Internal Auditing.



Report Summary

Value-for-money

For this audit, value-for-money means compliance to the terms and conditions of the contract and the City's process to manage the electrical services contracts to ensure that contractor performance is managed and optimized.

What did we do?

To determine if the City is receiving value-for-money and if the contracts are effectively managed we evaluated whether:

- Roles and responsibilities of managing the electrical services contracts are clearly defined.
- There is an effective process to ensure payments made to electrical services contracts are valid and supported.
- Electrical services contracts are being properly monitored.
- There is an effective process to enforce the terms and conditions of the electrical services contracts and whether they are being met.
- There is an effective process to assign work to electrical services contractors.

What did we find?

We found:

- The contract is utilized by multiple business areas. High level oversight of roles and responsibilities for contract management should be clearly defined and formalized to reduce any gaps in responsibilities including monitoring compliance and enforcing the terms and conditions of the contracts.
- The City received invoices from the contractors with incorrect rates and without all the supporting documentation required by the contracts. It does have an effective process to validate the invoices received from one of the contractors, who completed the majority of this work, and has not paid the invoices from them that do not comply with the contracts. It has paid the other contractors when they did not supply all the supporting documentation required by the contracts. The City has not paid any invoices with incorrect rates.

- The City should use benchmarking as part of its process to monitor and compare electrical services contractor performance.
- The City has taken some steps to address contractor performance such as reducing the amount of work provided to one of the contractors and not paying their non compliant invoices. The City should also be using the formal contractual remedies and mitigation strategies provided for in the contracts.

Recommendations

We made four recommendations:

Recommendation 1

Clearly define and document roles and responsibilities

Clearly define, document, and communicate the roles and responsibilities of each business area for management of the electrical services contracts, including, who enforces the terms and conditions of the contracts and who is responsible for monitoring contractor performance.

Recommendation 2

Only pay invoices with all required supporting documentation

Consistently apply processes to ensure that payments made to electrical services contractors have all the supporting documentation required in the contracts.

Recommendation 3

Formally compare contractors

Use formalized benchmarking and ensure all contract monitoring reports are received and reviewed to compare contractor performance against the contracts and other contractors and factor the results into the assignment of work.

Recommendation 4

Apply formal contract controls to help enforce the contracts

Apply formal contract controls to help enforce the terms and conditions of the electrical services contracts including:

- Using a mitigation strategy/written notice to inform contractors of issues with performance of contractual obligations.
- Re-evaluating and amending key performance indicators to align with the goals of the contract.



Background

Types of Electrical Services Work

The City uses electrical services contractors for a variety of work:



Repair and maintenance of existing street lights, traffic signals, LRT signals, and LRT electrical infrastructure.



Construction, installation, and renewal of traffic signals, street lights, traffic control devices, and LRT signals.



Construction of street lighting and electrical work related to neighbourhood renewal, park lighting, and local improvements.

Evolution of the City's Electrical Services Contracts

Prior to 2019, the City used Contractor A as the sole contractor for Electrical Services. Contractor A has historically constructed and maintained Edmonton's traffic signals, street light, and LRT signaling infrastructure through the Transportation Systems Electrical Services Agreement. Contractor A conducted this work as an extension of their regulated role with respect to electrical services in the City.

Throughout the term of the Transportation Systems Electrical Services Agreement the City encountered difficulties with the invoicing provided by Contractor A that made it difficult to validate the amounts invoiced by them. Management indicated they have spent years in discussions with Contractor A regarding the invoices. They have resolved some of the payments and are currently still working through some of them. They also indicated that there are underlying complexities in relationship management that affect the contractor relations.

Management views the effectiveness of an ongoing overall relationship with Contractor A as strategically important.

Management indicated that they worked with Contractor A to manage the costs under the Transportation Systems Electrical Services Agreement, but after two years of issues, it was determined that a revised process was required. On expiry of the Transportation Systems Electrical Services Agreement, the City entered into five electrical services contracts. These contracts cover the same breadth and scope of work as the Transportation Systems Electrical Services Agreement, but are with four different contractors.

The City entered into two different contracts with Contractor A.

1. The Electrical Services Agreement (ESA), which is a single source contract (not done through a competitive bidding process). Management indicated a single source contract with Contractor A was required for multiple reasons. In addition to Contractor A being the only electrical service contractor able to perform work on the LRT systems, there was a lack of capacity in the industry to complete the amount of work required, and after factoring in the complexity of the relationship between the City and Contractor A a single source arrangement was determined to be appropriate within the procurement framework.
2. A standing agreement, obtained through a competitive procurement process.¹

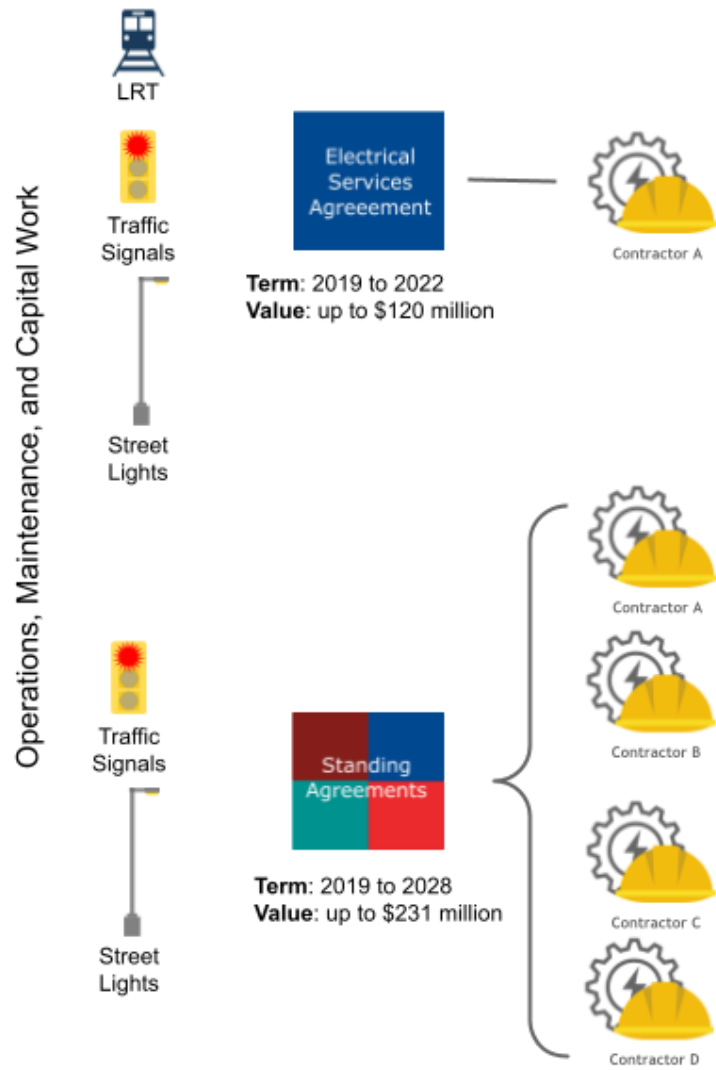
The City also entered into additional standing agreements with three other contractors.

The intention of the standing agreements was to allow for more open market tendering for electrical services to increase value-for-money, and industry capacity.

The current structure for the provision of electrical services in the City is reflected in the figure below.

¹ Standing agreements are an agreement between the City and the contractor resulting from a call for bids, under which the contractor agrees to perform capital and operations and maintenance (O&M) related work as and when needed by the City, at a predetermined price, for a predetermined period of time, upon predetermined terms and conditions.

Current Electrical Services Contracts and Contract Structure at the City of Edmonton



**Electrical Services
Contracts Users and Value
of Work**

Since 2019, the City initiated electrical services work valued at **\$94.6 million** through the electrical services contracts. \$71.7 million is related to capital and \$22.9 million is for operations and maintenance.

There are currently three business areas in the City that primarily use the electrical services contracts.

Business Area	Initiated Value
Traffic Operations, Parks and Roads Services Branch	\$48.0 ² million
Building Great Neighbourhoods Infrastructure Delivery, Building Great Neighbourhoods Branch	\$30.9 million
Engineering and Maintenance (LRT), Edmonton Transit Services Branch	\$10.1 million
Other (Transportation Infrastructure Delivery, Yellowhead Trail Portfolio, Transportation Planning and Design)	\$5.6 million

² \$31.8 million is for work done on behalf of other business areas, as Traffic Operations staff has the technical expertise.



Roles and Responsibilities

Key Findings

Clearly defined roles and responsibilities are important in the management of contracts to ensure that the City is receiving the value it desires from the contractors.



Roles and responsibilities of managing the electrical services contracts should be more clearly defined to ensure it is clear who is responsible for enforcing the terms and conditions and who is responsible for monitoring contractor performance.



Roles and responsibilities are clear. However, they should be formally documented.

Clarifying and documenting roles and responsibilities enables the City to ensure its business requirements are formalized and understood. As importantly, it provides the City with a path for recourse should the service provider fail to meet the performance requirements of the contract.



Roles and Responsibilities

It is not clear who should be enforcing the terms and conditions of the contract or who is monitoring the performance of the contractor.

The ESA requires Contractor A and the City to use a key contacts matrix to identify key individuals along with their roles and responsibilities. This is to ensure that the contract is effectively managed. The key individuals, from both Contractor A and the City, were not documented in the contacts matrix or any other documents.

As the contract is used by multiple business areas, this may have led to potential gaps in managing the contract. For example, it is not clear who should be enforcing the terms and conditions of the contract or who is monitoring the performance of the contractor.



Roles and Responsibilities

The responsibilities of managing the standing agreements is performed by Traffic Operations. These responsibilities include:

- Delivery of the operations and maintenance for street lighting and traffic signals.

Roles and responsibilities are not documented outside of what is in the contract.

- Ensuring that technical specifications are in accordance with the City's standards.
- Monitoring contractor performance.
- Invoice validation.

However, we found that the roles and responsibilities of individuals are not documented outside of the contracts.

The risk of not having clearly documented roles and responsibilities of the standing agreements is that there could be a gap in roles and responsibilities and this could impact contractor performance and the value-for-money that the City receives from these contracts.

Recommendation 1

Clearly define and document roles and responsibilities

Recommendation

Clearly define, document, and communicate the roles and responsibilities of each business area for management of the electrical services contracts, including, who enforces the terms and conditions of the contracts and who is responsible for monitoring contractor performance.



Responsible Party

Branch Manager, Parks and Road Services and Branch Manager, Building Great Neighbourhoods



Accepted by Management

Management Response

Administration accepts this recommendation.

Administration recognizes the Key Contacts Matrix in the performance management Terms and Conditions section of the ESA contract. Roles will be formalized as the ESA contract spans multiple business areas within the City. The SA contract is clear and has been communicated that Traffic Operations/PARS is the sole contract manager.



Implementation Date

October 31, 2021



Invoice Validation

Key Findings

Reviewing invoices is important in the assessment of value-for-money as it ensures that the City only pays for work that was performed and in accordance with the performance requirements and prices in the contract.

The City has received invoices that do not comply with the terms and conditions of the contracts³. They received invoices from Contractor A that included rates that exceed the maximum allowable by the contracts and that did not have all the supporting documentation. They also received invoices from the other contractors that did not have all the supporting documentation. The City has a process to validate the invoices received from Contractor A and has not paid any of the disputed Contractor A invoices. They have paid the other contractors.

Contractor A accounts for 72% of the total value of invoices received between October 2019 and September 2020.

Incorrect Rates

Contractor A's invoices contain rates that exceed contract maximums.

Contractor A did not always invoice the City the labour rates agreed to in the contract. 36% of their operations and maintenance related invoices in our sample (ESA and SA) had rates not in accordance with the contract. The other contractors and Contractor A capital invoices did not include rates exceeding the maximums allowed by the contracts.

To date, the City is disputing all the Contractor A (ESA and SA) invoices with incorrect rates and has not paid them.

Lack of Supporting Documentation

Contractors did not always provide all the documentation required by the contract to support their operations and maintenance invoices.

The main supporting document required by the contracts is called the "Schedule A". Schedule A is required for scheduled maintenance, system damage repairs, trouble calls, and

³ To test the compliance with the invoicing requirements in the contracts we reviewed a representative sample of operations and maintenance (O&M) invoices and a judgmental sample of capital invoices.

construction work. The City requires this information to validate whether work was completed in accordance with the service levels, correct rates/quantities were charged, and it helps the City validate the invoices received from electrical services contractors. This document includes information such as:

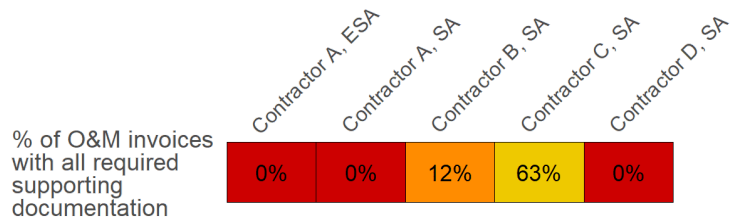
Operations & Maintenance Work:

- Dates for order creation, en route, on site, and work completed
- 311 tracking number
- COE authorizing person
- Labour rates, role, and hours worked

Capital Work (ESA only):

- Project quantities
- Unit price
- Current total
- Total to date

Contractors did not always provide all the required supporting documentation for invoices.



The City paid some of the invoices with missing information in the Schedule A's. These invoices should not have been paid by the City as these invoices did not fully comply with the terms and conditions of the contract which means that there is a negative impact on value-for-money achieved.

The City has implemented an invoice validation process for Contractor A invoices. It is disputing all the Contractor A (ESA and SA) invoices with missing information in the Schedule As, and has not paid them. The City should apply this process with more rigour to other contractor invoices as well to identify missing supporting documentation, and incorrect rates prior to the payment of invoices.

Conclusion

The risk of not consistently validating invoices and obtaining supporting documentation prior to payment is that the City may be paying for services it did not receive or be paying too much for the specific services. This can negatively impact the value-for-money obtained from the contracts.

Recommendation 2

Only pay invoices with all required supporting documentation

Recommendation

Consistently apply processes to ensure that payments made to electrical services contractors have all the supporting documentation required in the contracts.



Responsible Party

Branch Manager, Parks and Roads Services



Accepted by Management

Management Response

Administration accepts this recommendation.

Administration actively reviews all invoices and has only paid for services received. Schedule A formalises maintenance work which is tied to a service level. Some maintenance work, in practice, does not require Schedule A and this work is validated through the Traffic Signals Central Management system and field inspections. Administration will take steps to pursue contract amendments to define maintenance work that does not require Schedule A (e.g. loop repair etc).

By clarifying and defining the maintenance work documentation requirements, this will allow us to consistently apply processes to ensure that payments for invoices have the respective appropriate supporting documentation.



Implementation Date

February 28, 2022



Monitoring Contractor Performance

Key Findings

Monitoring the performance of contractor, with respect to contractual obligations⁴, ensures that the City's business requirements are being met and any performance issues can be identified and addressed in a timely manner. This helps ensure that value-for-money is achieved.

The City should use benchmarking as part of its process to monitor and compare electrical services contractor performance. This includes enforcing the terms and conditions from the ESA to provide monitoring reports.

Performing benchmarking to compare contractor performance and factoring the results into the assignment of work will help ensure the City is receiving value-for-money for electrical services contracts.

Benchmarking

For the electrical services contracts, benchmarking is the process of comparing the labour, equipment, and material pricing and quality and delivery of work of the electrical services contractors against each other and the terms and conditions of the contracts. Benchmarking is only required for the ESA, however, benchmarking is a tool that can be used to compare all contractor performance. Benchmarking procedures and results can be used to optimize how work is assigned to electrical services contractors.

The City should implement benchmarking.

The City should use benchmarking procedures to compare contractor performance against the contracts and other contractors to ensure that it is receiving the highest possible value-for-money for electrical services. Benchmarking results should be factored into the assignment of work to electrical services contractors.

We completed some benchmarking, including:

- Contract maximum price comparisons - comparing the prices in the contracts.

⁴ The monitoring of the quality of work completed by electrical services contractors was outside the scope of this audit.

- Response time comparisons for operations and maintenance - comparing the times to respond to calls between contractors.
- Billing timeline comparisons - comparing the length of time to receive an invoice between contractors.

Price comparisons

Prices for labour, equipment and capital work vary between the contracts.

There are significant differences in pricing for the various items related to capital work, equipment, and labour between the contracts. For example, depending on which contractor is selected:

- The price to supply and install a residential lighting controller base can vary up to \$4,700.
- The price per hour of a bucket truck (50' and higher), can vary up to \$104.
- The price per hour for project management can vary up to \$156.

These differences are not formally factored into how operations and maintenance work is assigned, but are used when assigning capital work.

These examples illustrate the contract pricing differences for similar work or items that could be discovered during benchmarking.

Response time comparisons

Average days to respond to a call vary between contractors and generally do not comply with contract requirements.

We compared the average days to respond to operations and maintenance calls between 4 of the contracts⁵. The average number of days to respond to a call varies from 26 to 252.

	Contractor A, ESA	Contractor A, SA	Contractor B, SA	Contractor C, SA
Average days to respond to a call	252	67	26	123

The contracts contain maximum response times for 6 categories of repairs. The response time maximums for 5 of the 6 categories are between 60 minutes and 7 days. One category has a maximum response time of 90 days.

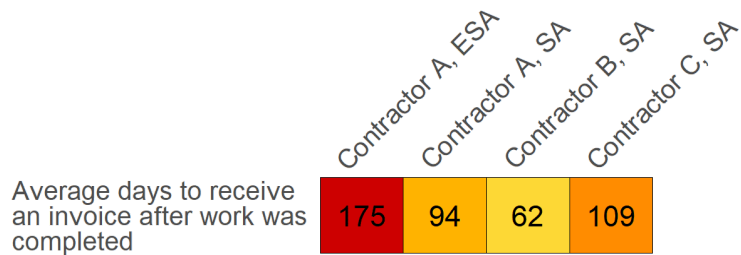
⁵ Contractor D invoices did not contain the onsite date so we were unable to calculate their average days to respond to calls.

Comparing the average response times to these requirements, contractors are generally not complying with the response time requirements in the contracts. Additional work would have to be done to determine which contractors have the best response times based on the type of repair work they are called to do. As well, any potential impacts to response times would have to be looked at, such as material delays.

Billing timelines comparisons

We compared the average days to receive an invoice after operations and maintenance work was completed between 4 of the contracts⁶. The average days to receive invoices ranged from 76 to 175 days.

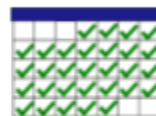
The average days to receive an invoice after work was completed varied between contractors.



Electrical Services Agreement

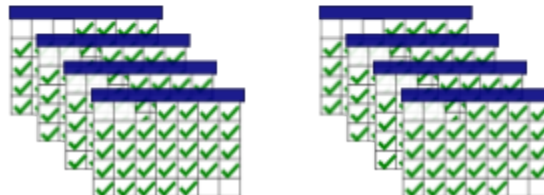
Only the ESA includes a timeline requirement for submitting invoices.

The ESA requires Contractor A to submit invoices to the City within **21 business days** after work has been completed.



Contractor A has not met the billing timeline requirement of the ESA.

The average number of days for Contractor A to submit an invoice was **175 business days**.



⁶ Contractor D invoices did not contain the work completion date so we were unable to calculate their average days to receive an invoice.

Electrical Services Agreement
ESA Monitoring Reports



There are no billing timeline requirements in the Standing Agreements. Without billing timeline requirements it makes it more difficult for the City to validate work for invoices submitted months after the work is completed. This was identified and discussed with Management. They agreed that a billing timeline should be included in a contract amendment.

Contractor A and the City have agreed to minimum reporting requirements in the ESA. These reports are designed to provide an update of Contractor A's progress and performance.

Contractor A is not complying with contract reporting requirements.

The ESA requires Contractor A to submit reports for street lighting, traffic signals, and key performance indicators.



The City received only 6% of the total reports required in the ESA.

Contractor A did not comply with the reporting terms and conditions of the contract. Under the contract, the City could have requested changes to the required reporting (for example when they started issuing less work to the contractor) by providing reasonable notice to the contractor. If the City was receiving the reports required in the ESA this would allow them to better monitor contractor performance.

Conclusion

The City should commence benchmarking procedures to evaluate and monitor contractor performance and factor the benchmarking results into how work is assigned to electrical service contractors to improve value-for-money. Benchmarking would also help the City with the design of future contracts that optimize the value-for-money received from electrical services contracts.

As well, the City can better manage Contractor A's performance if the required reports were used for monitoring purposes.

Recommendation 3

Formally compare contractors

Recommendation

Use formalized benchmarking and ensure all contract monitoring reports are received and reviewed to compare contractor performance against the contracts and other contractors and factor the results into the assignment of work.



Responsible Party

Branch Manager, Parks and Roads Services and
Branch Manager, Building Great Neighbourhoods



Accepted by Management

Management Response

Administration accepts this recommendation.

Administration will perform benchmarking, ensure contract monitoring reports will be applied to the ESA contract, and develop KPIs to monitor & compare the SA contracts.



Implementation Date

January 31, 2022



Enforcing the Terms and Conditions of the Contracts

Key Findings

Enforcing the terms and conditions of the contracts ensures that the contractors are meeting the performance requirements desired by the City, which supports the achievement of value-for-money. The City could improve its process to enforce the terms and conditions of the electrical services contracts.

The contracts have a number of controls that could be used more effectively to help enforce the terms and conditions of the contracts. This includes mitigation strategies/written notice to inform contractors of issues with performance of contractual obligations, and adjustments to key performance indicators.

Ensuring the terms and conditions are fully enforced reduces the City's risk as contractors may not otherwise be meeting the performance requirements which means that the City could be receiving better value-for-money.

Mitigation Strategies

The City has not used a mitigation strategy to correct performance.

Electrical Services Agreement According to the ESA, if Contractor A is not meeting expectations based on the key performance indicators, mitigation strategies can be used by the City to correct performance. If the contractor fails to meet expectations at the following quarter, the City has the option to terminate the contract.

Contractor A has not fully complied with the terms and conditions of the ESA. The City has reduced the amount of work assigned to Contractor A, is not paying their invoices, and there have been several meetings between the parties to discuss noncompliance with the terms and conditions of the contract. However, a more formal mitigation strategy (as allowed under the contract) would include notifying Contractor A of the rationale for the changes.

Standing Agreements For the standing agreements, if work is not performed properly, or if the contractor fails to comply with any provision of the contract, the City may notify the contractor in writing that it is in default

of its contractual obligations. If the contractor fails to correct the default the City may terminate the contract.

Management has communicated that the standing agreement contractors do not have significant issues with the compliance to the terms and conditions of the contract. However, we identified issues with response time service level and providing all the supporting documentation required for payment. Management would be aware of these issues if the City implemented benchmarking procedures to compare contractor performance.

The risk of not enforcing the terms and conditions of the contracts is that contractors may continue to not comply with the terms and conditions of the contracts. This would mean that the City is not receiving value-for-money as the City is paying for suboptimal services.

Key Performance Indicators



The ESA uses key performance indicators as a tool to measure the effectiveness of the contract.

Per the contract, Contractor A should provide the City with a key performance indicator report within 10 business days after each quarter. The City did not receive any key performance indicator reports in 2019 and the four key performance indicators reports it did receive in 2020 were not received within the 10 business days as required by the contract.

The key performance indicator results provided by Contractor A are not usable by the City.

An additional issue is that the key performance indicators are self evaluated by Contractor A. This lack of objectivity means that any reports provided by Contractor A on its key performance indicators may be subject to self-bias. As well, management does not agree with the results provided and our findings support this.

For example, one key performance indicator is “compliance with invoice requirements for payment”. Our results show that Contractor A was not in full compliance with these requirements. Contractor A gave themselves the maximum score for this indicator.

Another key performance indicator is that “all incidents and near misses need to be reported” to the City. Contractor A rated themselves the maximum score for this indicator,

however, they did not provide the City with any OH&S reports required for contract reporting.

The ESA allows the key performance indicators to be revised annually to ensure they align with the long term goals of the contract. The City has not yet attempted to revise the key performance indicators.

Conclusion

The City has sought to enforce the terms and conditions of the ESA contract and Contractor A's standing agreement, however they have not used the formal mitigation strategy included in the ESA contract or issued written notice to the standing agreement contractors to notify them of the issues with meeting their contractual obligations.

The City has also not been able to use the key performance indicators provided by Contractor A to determine if they have defaulted on their obligations. There is an option to revise the key performance indicators to ensure they align with the long term goals of the contract, of which the City should take advantage.

Not making use of the available mechanisms means that the City has less ability to ensure it is receiving value-for-money.

Recommendation 4

Apply formal contract controls to help enforce the contracts

Recommendation

Apply formal contract controls to help enforce the terms and conditions of the electrical services contracts including:

- Using a mitigation strategy/written notice to inform contractors of issues with performance of contractual obligations.
- Re-evaluating and amending key performance indicators to align with the goals of the contract.



Responsible Party

Branch Manager, Parks and Roads Services and
Branch Manager, Building Great Neighbourhoods



Accepted by Management

Management Response

Administration accepts this recommendation.

Administration actively applies controls to enforce invoice-related terms and conditions through the rejection of invoices, withheld payment and corrections on any discrepancies prior to payment. Administration meets regularly with contractors and participates in monthly meetings and when required, working committees (e.g. logging issues in action logs).

Administration will provide written notice when there are issues with performance of contractual obligations.



Implementation Date

January 31, 2022



Conclusion

What did we find?

This review identified opportunities for the City to consider as it improves its management of the electrical services contracts.

The value-for-money of the electrical services contracts can be improved by ensuring that contractors are complying with all the terms and conditions of the contract and by using benchmarking procedures to compare value received from electrical services contracts. These benchmarking results should be factored into how work is assigned to electrical services contractors.

The City can improve their management of the electrical services contracts by ensuring that the roles and responsibilities of managing the contract are more clearly defined and documented. This would allow the City to better enforce the terms and conditions of the contracts to ensure that they are being met and to improve monitoring of contractor performance. As well, it should consistently apply the process to ensure payments are only made to electrical services contractors whose invoices have all the supporting documentation required by the contracts.

The Office of the City Auditor has provided four recommendations that can support the City to leverage these opportunities to improve the value-for-money and management of the electrical services contracts.

Acknowledgement

We thank the Parks and Roads Services Branch and Building Great Neighbourhoods Branch management and staff for their cooperation, support, and openness during this audit.