

Annual Report of the Auditor General of the Ville de Montréal

For the Year Ended December 31, 2013

June 17, 2014

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(Service des infrastructures, du transport et de l'environnement – Direction des infrastructures)
- 5.11. Snow Clearing Contracts Awarded from 2005 to 2013
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2. Overview of the Bureau du vérificateur général

3. Investigative and Forensic Accounting Report

4. Financial Statement Audits

5. Value-for-Money and Information Technology Audit

5.1. Follow-Ups to Recommendations from Previous Years

Status of Follow-Ups to Recommendations

- The percentage of the recommendations made by the Bureau du vérificateur général (BVG) is a key indicator to ensure that the city implements these recommendations promptly
- In 2013, the city's Direction générale set new performance targets
 - **70%** of the recommendations made must be **completed** within the first year following their publication
 - **90%** of the recommendations made must be **completed** within the second year following their publication
- For recommendations made in 2012, those whose status is considered “completed” represent a proportion of only 43% compared with the 70% target

5.2. Monitoring of Municipal Building Indoor Air Quality

Introduction and Purpose of the Audit

■ Introduction

- Ville de Montréal (the city) owns a major building inventory of 1,338 buildings, serving both Montrealers and municipal employees
- In terms of indoor air quality, the common causes of problems observed are as follows:
 - Mismatched comfort parameters
 - Presence of biological and chemical contaminants in the indoor air
 - Poor maintenance or inadequate functioning

■ Purpose of the audit

- Ascertain the existence and implementation of a preventive maintenance program (PMP) for all heating, ventilation and air conditioning (HVAC) systems

Main Findings

Inventory of buildings and their air-related components

- The building inventory is not up to date
- The inventory of the HVAC systems' 5,200 components is incomplete or up to date

Establishment and integrity of the preventive maintenance programs

- The PMPs do not cover all HVAC system components that require maintenance
- The PMPs are incomplete and outdated with respect to maintenance activities and tasks as well as standard maintenance timelines
- The lack of reliable information makes it difficult to generate an accurate portrait illustrating the actual PMP implementation rate

Main Findings

Maintenance of water cooling towers

- Several water cooling towers were not linked to a PMP
- Some PMPs in place regarding this type of equipment did not provide for bacterial analyses of the water circulating within them to detect the presence of bacteria, including *Legionella pneumophila*

5.3. Management of Software Licences

Introduction and Purpose of the Audit

■ Introduction

- The purpose of the *Copyright Act* of Canada is to protect the intellectual property of works; this ensures that a work may not be copied, transmitted, downloaded or used without the permission of the author or copyright owner
- All applications not designed in-house require the acquisition of a software license from a supplier
- Three software supplier audits have cost the city \$2.7 million in non-compliance expenses for the adjustment of its software licences

■ Purpose of the audit

- Assess the extent to which the existing monitoring framework makes it possible to ensure compliance with software licenses
- Ensure that agreements concluded with software suppliers are established on the basis of needs and under the best conditions

Main Findings

Copyright compliance

The city runs the risk of once again incurring substantial expenses for failing to comply with software licences due to the shortcomings of the current monitoring framework. In particular:

- There is no centralized information system for the purpose of monitoring compliance with the licences held and used on a city-wide basis
- All administrative units are responsible for the management of software licences but, at the end of the day, none of them is truly accountable for copyright compliance
- No general compliance monitoring report is systematically produced and no formal accountability process is in place in this regard
- The Service des technologies de l'information has no authority over 3,800 workstations, or 22%, of the city's workstation fleet

Main Findings

Optimization of licensing agreements

The city runs the risk of not being able to effectively act on either of the variables that impact the optimization of its software licensing agreements, i.e., the price or quantity used, given the aforementioned shortcomings of the monitoring framework as well as the following shortcomings:

- There is no formalization of periodic acquisition strategies for any of the software products with regard to needs, products and opportunities
- There are no officers responsible designated for individual suppliers, which undermines the city's negotiating power

5.4. Security of Wireless Networks

Introduction and Purpose of the Audit

■ Introduction

- These networks make it possible to connect all kinds of equipment (e.g., laptop computers, tablets, smartphones) to corporate networks, such as that of Ville de Montréal (the city)
- Wireless networks are often vulnerable to attacks by malicious individuals who attempt to access confidential information without needing to be physically present in the company

■ Purpose of the audit

- Determine if the controls that were put in place ensure that only duly authorized wireless networks are present within the city
- Ensure that security mechanisms installed in the networks prevent unlawful access to the city's corporate network

Main Findings

- While, overall, the wireless networks are adequately protected, the city runs the risk of malicious persons accessing confidential information for the following reasons:
 - The lack of a process to detect unauthorized wireless networks has allowed some potentially prohibited wireless access points to be installed, some of which are concealed
 - Some wireless access points that are unsecured or use security protocols that are not robust do not meet the city's security requirements

5.5. Penetration Tests

Introduction and Purpose of the Audits

■ Introduction

- In an effort to ensure a reasonable level of confidence in the quality of existing controls and to reduce to an acceptable level the risks of cyberattacks on the information systems of some of the city's business units and bodies controlled by the city, we continued during 2013 a program of penetration testing that we initiated in 2012. This program is continuing in 2014

■ Purpose of the audits

- Test the security of computer environments that have been deemed critical and assess their resistance to a certain level of cyberattack originating externally and internally

■ Results of penetration tests

- For obvious reasons, the results must remain confidential

5.6. M-IRIS Project

Introduction and Purpose of the Audit

■ Introduction

- The implementation of the M-IRIS software package (Montréal – Inscription et recherche de l'information sur la sécurité) stems from the desire of the Service de police de la Ville de Montréal (SPVM) to improve the effectiveness of its police operations
- Its purpose is to enable officers to complete the information required in an incident report from their patrol car. This incident may then be subject to an investigation, and the file can be submitted before the appropriate court
- Clearly, the M-IRIS software package is of strategic importance for the effectiveness of SPVM operations

■ Purpose of the audit

- Ensure that the M-IRIS project has appropriate oversight and that the city has put in place the proper management practices to guarantee its efficiency and effectiveness

Main Findings

- A detailed report of the results of our audit was sent to the SPVM and to the Service des technologies de l'information, which was mandated to oversee the implementation of the M-IRIS software package. The report, which brings to light significant and worrisome weaknesses, remains confidential given the sensitive nature of the information it contains with regard to public safety

5.7. Food Inspection and Street Food Pilot Projects

Introduction and Purpose of the Audit

■ Introduction

- The city is responsible for food inspection following an agreement concluded with the MAPAQ
- The activities covered are restaurant services, retail food sales, processing, distribution and storage
- The food sector included over 15,300 establishments in 2012. The arrival of street food vehicles has added to the number of establishments to be inspected

■ Purpose of the audit

- Ensure that the city has correctly implemented the inspection programs set out in the agreement with the MAPAQ
- Ensure that the issuing of occupancy permits for street food vehicles complies with the laws and regulations in effect and that these vehicles are properly inspected

Main Findings

Human resources

- The budgets allocated for inspector compensation are not being fully used due to vacant positions. Several inspector positions remain unfilled since at least 2010
- This situation has therefore led to delays in completing the expected number of inspections. As of January 4, 2013, 2,754 establishments were affected by inspection delays, 467 of which had a response priority of 1

Main Findings

Annual inspection program

- There are delays in updating the list of active establishments, which is maintained through the Montréal food inspection system. In addition, the information received from the boroughs in this regard is often incomplete. This situation presents a problem for some food sectors, including the restaurant sector, in which the status of establishments changes frequently and rapidly. This situation is also a problem in that it does not facilitate informed planning in order to promptly detect delinquent establishments

Main Findings

Street food

- Two public area occupancy permits were issued to operators that had not obtained the required MAPAQ permit for the restaurant industry and the sale of food
- Differences were observed between the menus approved during the choosing of the street food operators and the food actually sold from the vehicles

5.8. Compliance with Laws and By-laws

Introduction and Purpose of the Audit

■ Introduction

- As part of the activities and services they carry out, the boroughs must comply with a large number of laws and by-laws. If the city does not comply with the laws and by-laws to which it is subject, it exposes itself to numerous serious consequences, including financial losses, lawsuits, public criticism and a negative image
- Directors must submit a certificate of compliance every year attesting that they have taken every measure to ensure compliance with the laws and by-laws

■ Purpose of the audit

- We sought to examine all the measures implemented by boroughs to ensure compliance with certain laws and by-laws governing their activities and services. Three laws and by-laws were examined

Main Findings

General

- Despite the boroughs' obligation to follow an administrative framework on compliance with laws and by-laws and to produce a certificate of compliance that is submitted to the city manager every year, for the three chosen areas of activity, the boroughs did not know or did not correctly apply the related laws and by-laws
- In order for these certificates to assume their full value, it is essential that boroughs take all reasonable measures to ensure compliance with all laws and by-laws and that this procedure be properly regulated
- Our results raise doubts about the value of this certificate

Main Findings

Act Respecting Land Use Planning and Development and related by-laws

- Under this Act, municipalities can require, by way of a by-law, a contribution for parks when an applicant applies for a subdivision permit or building permit
- It is clear from reading these by-laws that they are complex and that their application requires the employees in charge to be very thorough and have excellent knowledge of their content and nuances
- We uncovered several shortcomings based on a sample of 18 files regarding applications for subdivision or building permits for the three boroughs. Substantial shortfalls were discovered within the sample alone. We observed several weaknesses with regard to documentation and file review

Main Findings

Act Respecting Land Use Planning and Development and related by-laws

- In conclusion, we are quite puzzled by the results of our audit. By examining only a limited sample of 18 cases of permit applications for three boroughs, we observed under-billing in the amount of close to \$800,000
- We can only conclude that there is a high risk of under-billing and that this amount may be considerable given that the regulations have been in effect for a number of years. The financial losses can be up to hundreds of thousands of dollars for a single permit file
- Furthermore, the numerous situations of non-compliance observed as well as the shortcomings with regard to internal controls raise suspicions about the possible existence of deliberate misconduct (corruption, collusion)

Main Findings

Regulation Respecting the Hours of Driving and Rest of Heavy Vehicle Drivers

- The *Highway Safety Code* sets out special rules governing hours of driving, work and rest, to help limit fatigue in heavy vehicle drivers
- In particular, it prescribes a maximum number of hours of driving and work for a day and for a work cycle. Moreover, it requires the keeping of daily logs or registers in which drivers' activities are to be entered
- Driver fatigue is generally felt after 10 hours of consecutive driving. After these 10 hours, there is a high risk for accidents involving employees and citizens

Main Findings

Regulation Respecting the Hours of Driving and Rest of Heavy Vehicle Drivers

- The lists of heavy vehicles are not up to date and the information they contain is insufficient
- There is no evidence that a check is performed by a person in charge to ensure that drivers have not violated any provisions of the regulation
- Lack of a register detailing the activities of heavy vehicle drivers, including hours of driving and rest
- For one borough, several cases presented worrisome issues. Some employees assigned to heavy vehicles had worked over 20 consecutive hours or between 14 and 18 hours
- Basic principles are not being followed, which increases the risk of accidents involving employees and citizens

Main Findings

Private Security Act

- The *Private Security Act*, which came into force in full in July 2010, prescribes that individuals who carry out security activities must hold an agent licence
- The managers of one of the three boroughs stated that they were not familiar with this act. This being the case, the borough obviously did not adopt a procedure to comply with this act
- For the two other boroughs in our sample, a procedure was started but was not carried out annually or was not documented

5.9. Water Line Breaks

Introduction and Purpose of the Audit

■ Introduction

- The water supply system is made up of water mains (740 km) and lateral mains (3,572 km), valves, service lines and fire hydrants. One of the signs of decaying water assets is frequent breaks. These must be reduced to a minimum to avoid public inconvenience. One of the ways to reduce the number of breaks is to replace, rehabilitate and maintain lines in the system. The city has developed a response plan (RP) for this purpose. RPs were produced in 2010 and 2012
- One of the essential pieces of information used to produce the RP is the break rate (breaks per kilometre per year)
- The portrait of the system must be as complete as possible

■ Purpose of the audit

- Ensure that the city possesses the reliable data needed to carry out the necessary maintenance and repairs

Main Findings

Updating data on water line breaks

- Several operations in the database used to inform the RP are recorded as being water line breaks when they are not actual water line breaks, making these data unreliable
- Several water line break repairs carried out in the boroughs were not recorded or were recorded incorrectly in the database used to produce the RP
- Major delays in entering water line breaks
- The city does not have a complete and accurate portrait of the change in the number of breaks over the years
- The city does not centrally compile the direct costs of break repairs (leak location, excavation, repair, signage while repairs are under way) and the indirect costs of breaks

Main Findings

Data used for analysis and correlation purposes

- We were surprised to find that the vast majority of water lines repaired following breaks in 2012 had not been determined as priority water lines to be rehabilitated or replaced in either the 2009 or 2012 RP. For instance, in the audited boroughs, 95% to 99% of the 2012 repairs were carried out on water lines that had not been established as requiring priority treatment in the 2012 RP. This perplexes us
- Lack of a complete process for the production of data on the types of failures, the types of repairs and the causes of breaks to enable the city to conduct analyses and establish correlations to gain a better understanding of these breaks and prioritize its actions accordingly

5.10. Laboratory Activities – Quality Control of Materials and Expert Assessments

Introduction and Purpose of the Audit

■ Introduction

- Infrastructure includes:
 - The arterial road system
 - Bridges and tunnels
 - Pipes in the secondary water and sewer systems
- The quality and sustainability of the infrastructure depend in large part on the quality of the materials and processes used during construction
- It is vital that the city exercise strict control in the laboratory and on the sites

■ Purpose of the Audit

- Evaluate the extent to which the quality control tests ensure that the materials used comply with the requirements set out in the technical specifications and with the city's standards
- Determine whether the non-compliances identified are properly taken into account

Main Findings

Assignment of mandates to private laboratories and follow-up of services provided

- The firms do not consult the plans and specifications ahead of time for the construction project as specified in the call for tenders documents
- The private laboratories do not submit in advance initial cost estimates and they are responsible for determining the nature of the work that needs to be carried out
- This makes it very difficult for the city to corroborate the invoices submitted by the firms and the city runs the risk of being overbilled
- The city does not make sporadic site visits to verify the controls carried out by these firms and thus corroborate the work being billed
- In the case of one project that went over budget, laboratory tests were not carried out

Main Findings

Quality control testing of materials

- The formulas and technical specifications for bulk material were not always verified and pre-approved by the city.
- Also, private laboratories are mandated to ensure, while the work is in progress on the site, that the materials delivered correspond to those previously approved and are installed in keeping with the city's standards. In several cases, the sampling was not done or the number of samples was far lower than what was required
- We found no evidence that pre-fabricated materials were verified as part of the work-site monitoring process to ensure their quality and compliance with the city's standards
- The materials used may not meet the city's standards. Also, contractors may use inferior quality materials, thereby compromising the sustainability of the infrastructure

Main Findings

Deadlines for communicating results

- The time taken to forward non-compliant test reports varied from 2 to 31 days and even longer, whereas such reports must be sent within a maximum of 24 hours

Handling of reported non-compliances

- Decisions made regarding the handling of reported non-compliances are not always documented
- The procedure for sharing roles and responsibilities with respect to following up the handling of identified non-compliances is unclear

5.11. Snow Clearing Contracts Awarded from 2005 to 2013

Introduction and Purpose of the Audit

■ Introduction

- City council delegated the clearing of snow from streets, sidewalks and public places to each borough council
- Given the revelations regarding the awarding of infrastructure construction contracts, and with the goal of providing authorities with information on the rules and practices that characterize the snow clearing industry, we decided to undertake this audit in order to paint a complete picture of the situation

■ Purpose of the audit

- Identify the number and amounts of the contracts covering all snow clearing operations for the period from 2005 to 2013
- Ensure that there was open competition between contractors so as to enable the city to obtain the best prices

Main Findings

Snow clearing

- 25 companies out of the 54 that were awarded this type of contract had 83.6% of the total amount of the contracts in force from 2005 to 2013
- 54% of the total amount of the contracts went to just nine of these companies. Two of these nine were awarded 100% of the contracts in one borough. We generally note that the seven others, although active in more than one borough (two or three, depending on the case), are predominantly present in a single borough

Snow clearing equipment rentals

- Out of 92 companies, 12 were awarded the lion's share or 67% of the total amount of the contracts
- Of this group, one company was awarded 100% of the contracts in one borough, while three others were awarded all of the contracts in another borough

Main Findings

Snow loading

- 25 different companies and two groups comprised of various snow loading companies are active in this business sector
- Six companies had the lion's share, i.e., \$52.8 million out of a total of \$86.8 million in contracts awarded

Snow disposal operations

- 12 companies were awarded all of the contracts
- Of these, four had the lion's share or 88% of the total amount of the contracts for this business sector. Moreover, these four companies are present in six of the seven boroughs that award snow disposal contracts

Main Findings

- For the boroughs, it is important to detect and document possible signs of irregularities as well as the decisions made in each case. In this regard, we arrived at the following conclusions:
 - Decision-making summaries were sometimes mute about non-negligible price differences (more than 15%) between the first and second lowest compliant bidder
 - We found no explanation for the choice of successful bidder, especially when the company was the only tenderer to submit a compliant bid even though several other companies had procured the call for tenders documents
 - The reasons for rejecting non-compliant bids were not adequately documented
 - The total amounts spent by the boroughs on snow clearing operations vary from borough to borough

Main Findings

In conclusion

While we do not purport to show beyond a doubt that bid-rigging exists among businesses to share contracts for snow clearing operations on the territory of the various boroughs, our audit brought to light a sufficient number of indicative factors to raise suspicions that such a practice likely does exist, to the detriment of obtaining the best prices for the services requested

5.12. Contracts for the Collection and Removal of Residual Materials – from 2005 to 2013

Introduction and Purpose of the Audit

■ Introduction

- The city's boroughs are responsible for planning and organizing the collection and removal of residual materials produced on their respective territories
- In light of the schemes that have come to light regarding the awarding of infrastructure contracts and in an effort to clarify for the authorities the rules and practices that characterize this business sector, i.e. the collection and removal of household waste and recyclable materials, we felt it timely to perform an audit to gain an overall picture of the situation

■ Purpose of the Audit

- Identify the number and amounts of contracts for the collection and removal of residual materials (household waste and recyclable materials) that were awarded by the city's boroughs to various private companies and that were in force for the period from 2005 to 2013
- Verify whether these contracts were awarded fairly

Main Findings

- 165 contracts, amounting to \$504 million, were awarded to 29 companies within the 19 boroughs for the collection and removal of household waste and residual materials
- Note that 42 companies make up the “market” for this business sector, which means that 13 of them were not awarded contracts during this period

Collection and removal of household waste and residual materials (from 2005 to 2013)

- Seven companies provide both services. Four of them had the lion’s share or 92% of the contracts in this business sector
- These 4 companies enjoy a large presence in 17 boroughs. Furthermore, upon examination of the calls for tenders, we concluded that there was little competition between three of them when submitting a bid
- The distribution of their services is often concentrated in boroughs that share the same territorial boundaries

Main Findings

Collection and removal of household waste

- 14 companies shared \$98.2 million in contracts. Two of these had the lion's share or 65% of the amount of all of the contracts awarded in this business sector
- Several companies making up this group have activities that are concentrated in one or two boroughs

Collection and removal of recyclable materials

- Two companies had the lion's share or 83.6% of the total amount of the contracts (\$111.1 million)
- Two other companies are also active in several boroughs, but the competition between them is not very fierce when bidding in response to calls for tenders

Main Findings

In short, our conclusions are as follows:

Collection and removal of household waste

- In nine boroughs, the same four companies always received 100% of the contracts
- In four boroughs, four companies received between 80% and 99% of the contracts
- In three boroughs, two companies received between 50% and 79% of the contracts

Collection and removal of recyclable materials

- In six boroughs, three companies received 100% of the contracts
- In two boroughs, two companies received between 80% and 99% of the contracts
- In 10 boroughs, six companies received between 50% and 79% of the contracts

Main Findings

- The amounts spent to have waste and recyclable materials collected and removed vary considerably from one borough to another
- With respect to the process used to award contracts:
 - Decision-making summaries were sometimes mute about non-negligible price differences (more than 15%) between the first and second lowest compliant bidder
 - Decision-making summaries do not provide sufficient explanations when there is only one bidder or a limited number of bidders
 - The reasons for rejecting non-compliant bids were not always adequately documented in the decision-making summaries
 - In certain cases, the successful tenderer was not the one who had submitted the lowest bid
 - In certain boroughs, we noted that related companies submitted simultaneous bids

Main Findings

- Our audit brought to light a sufficient number of indicative factors to raise very serious suspicions that bid-rigging among businesses to share contracts is a likely practice, to the detriment of obtaining the best prices for the services requested
- There were many indications of collusion leading to the same conclusion that a handful of contractors were receiving almost all the contracts. Even more convincing was our finding that several boroughs had awarded exclusive contracts to a single contractor for the past nine years in these business sectors. In the presence of openly competitive markets, this kind of situation would, at the very least, be unlikely

1. Comments and Recommendations from the Auditor General

Process for Following Up on Recommendations Issued by the BVG

- The deadlines provided in the action plans submitted by the business units are often extended beyond one year whereas the recommendations could have been implemented more quickly
- Furthermore, to adequately track the implementation of the recommendations, in certain cases, the BVG experienced difficulty obtaining the required information promptly from the business units
- When the persons in charge of implementing the recommendations are replaced, the new persons are not provided with all of the required information

I recommend among other things that the city raise business units' awareness of the importance of implementing the recommendations issued by the BVG within a one-year period, in most cases, and that this be reflected in the action plans they submit

Compliance with Laws and By-laws

- All of the business units are required to produce certificates of compliance attesting their observance of the applicable laws and by-laws
- As part of its audit work, the BVG discovered several cases of non-compliance
- This leads me to conclude that, despite these certificates, the business units did not take all of the measures they could have to ensure their compliance with the applicable laws and regulations

I recommend that the city remind the business units of the importance of complying with the laws and regulations that govern their activities

Quality of Infrastructure Work

- The findings contained in the report on the quality control of the materials used for infrastructure work suggest that work may have been carried out without obtaining the assurance that the materials were of adequate quality and met the city's needs
- This finding is worrisome given that many of the city's infrastructure works are currently in a precarious state
- In two recent reports, the BVG claimed that the city's infrastructure was plagued by significant under-investments
- There is an undeniable relationship between the degraded state of the infrastructure and the quality of the materials used as well as compliance regarding the installation of the materials used

I recommend that the city adopt monitoring mechanisms to provide independent assurance that all of the guidelines governing the quality of work are followed

Corruption and Collusion Awareness Program

- In my 2009 annual report, I exposed a troubling situation that could suggest that building contractors had divided up the territory on a voluntary basis
- Since then, several schemes have been brought to light by the Charbonneau Commission
- This year, the work of the Bureau has revealed possible or even likely collusive activities in two business sectors: the removal of household waste and recyclable materials and snow clearing. The data used for the audit work were made available from and provided by persons in charge, but they are difficult to obtain for the purposes of an adequate analysis

I recommend that the city implement a corruption and collusion awareness program aimed at all business sector personnel who may be exposed to corruptive or collusive practices