Calgary

City Auditor's Office

Environmental & Safety Management-EnviroSystem Oversight Audit

September 9, 2016

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Executive Summary

The Strategic Services Division (SSD) under the Environmental & Safety Management (ESM) Business Unit (BU) provides governance and oversight over The City of Calgary's (The City's) environmental management systems (EnviroSystem) to support The City's compliance with legislation, risk management, and environmental performance improvement. Key activities include managing The City's internal environmental audit program, and tracking and reporting on The City's environmental risks and performance. Internal audits are a critical tool to assess compliance with environmental legislation and conformance with ISO 14001, an international standard for effective environmental management. Monitoring and reporting on corporate environmental risks and performance provides Administration valuable information to assess compliance and to support ongoing improvements to environmental risk management and performance.

The objective of this audit was to evaluate the effectiveness of SSD's oversight over the EnviroSystem, which supports The City's environmental commitments. The audit objective was achieved by assessing the effectiveness of oversight controls in place including the administration of the audit program, and environmental risks and performance reporting. We assessed SSD's oversight practices against The City's Internal Audit Program (IAP) framework, ISO 14001, ISO 14004 (Environmental Management System- General Guidelines), and ISO 19011 (Guidelines for Auditing Management Systems), and The City's Integrated Risk Management (IRM) framework.

Based on our review, although BU audits and related reporting processes are occurring, oversight controls require improvement to ensure that the IAP is providing adequate assurance over the EnviroSystem and appropriate monitoring and reporting is in place. Although The City's ISO certification model changed significantly in 2009, ESM's mandate and audit approach remained unchanged. We believe the mandate should be re-evaluated in light of the current ISO certification model and updated to clarify ESM's key responsibilities as they relate to managing and delivering the IAP and reporting on environmental performance. We raised recommendations to re-evaluate and reconfirm ESM's mandate with the Administrative Leadership Team (ALT), which will enhance SSD's ability to evaluate and report on the effectiveness of the EnviroSystem.

SSD's process to develop and maintain the Corporate Environment, Health, and Safety (EHS) Risk Register has been updated to align with The City's IRM standards. We recommend further enhancements to include defined corporate environmental objectives which will support greater consistency in identification and risk ranking of environmental risks. Although the EHS Risk Register process is focused on capturing selected "strategic" corporate risks, it does not consistently leverage environmental risks assessed by BUs through IRM and ISO 14001. We recommended that ESM define corporate strategic environmental objectives and that SSD develop a consistent corporate risk register process that integrates BU environmental risk analysis.

The EHS Governance Reports on corporate environmental risks and performance have evolved to focus mainly on corporate environmental risks with limited insights on performance trends and the overall health of the EnviroSystem. Environmental performance is included only to the extent it is related to a corporate environmental risk. SSD also prepares monthly and semi-annual environmental reports to ALT and Council that provide information on environmental performance such as incidents, violations and audit results. Overall monitoring and reporting on corporate environmental performance can be enhanced by providing insights on trends and the overall health

of the EnviroSystem. We recommended the inclusion of data analysis and trending in performance reports, which will support the identification of improvements.

ESM agreed to all recommendations and has set action plan implementation dates no later than July 1, 2017. The City Auditor's Office will follow up on all commitments as part of our ongoing recommendation follow-up process.

1.0 Background

Under The City of Calgary's (The City's) Environmental Policy, The City works together to comply with environmental legislation, standards and requirements. Thirteen City Business Units (BUs) with higher environmental operating risks have formal environmental management systems that are registered under ISO 14001, an international standard for effective environmental management. These environmental management systems are collectively known as The City's Environmental Management System (EnviroSystem). The EnviroSystem supports The City to comply with environmental legislation; conserve resources and prevent pollution; and continually improve The City's environmental performance.

Prior to 2009, The City was certified through 11 separate registrations representing 12 operational BUs and one corporate wide umbrella registration for 20 low risk BUs. The current EnviroSystem (post 2009) is a complement of 12 separate registrations representing 13 operational BUs with no corporate registration[1]. Under the current certification model, most ISO registered BUs have an Environmental Specialist to directly manage their ISO 14001 certification.

Oversight provided by the Environmental & Safety Management (ESM) BU's Strategic Services Division (SSD) facilitates compliance with legislative and corporate requirements, risk management and continual performance improvement. In particular, SSD tracks and reports on environmental risks and performance, and manages The City's environmental compliance and EnviroSystem audit programs.

SSD maintains a Corporate Environment, Health and Safety (EHS) Risk Register on behalf of The City, and reports corporate EHS risks, targets and mitigation strategies to the Administrative Leadership Team (ALT) through semi-annual Corporate EHS Governance Reports (Governance Reports). Significant environmental incidents, regulatory infractions and audit non-conformance/non-compliance findings are communicated to ALT and the Standing Policy Committee (SPC) on Utilities and Corporate Services through respective Monthly Corporate EHS Exception Reports (Exception Reports) and Semi-annual Corporate EHS Management Systems and Compliance Reports (Compliance Reports). Reporting environmental risks and performance is a critical function to promote and continually improve an organization's environmental performance and risk management.

SSD manages and delivers EnviroSystem and compliance audits (combined audits) based on an Internal Audit Program (IAP) framework, created by ESM in April 2002. The IAP framework provides guidance on the audit process and audit team responsibilities. Combined audits provide assurance that the EnviroSystem satisfies the requirements of ISO 14001 standards, and is effective in identifying non-compliance to legislation and City requirements. Failure to comply with environmental legislation, standards and policies can lead to financial, legal, reputational and operational liabilities. Further, non-conformance with ISO 14001 can result in the loss of registration and reputational impacts.

SSD provides additional support, including:

[1] Twelve separate registrations cover 13 BUs since Water Resources and Water Services have a combined registration.

- Providing assistance to the individually registered BUs in the continuous maintenance and improvement of their environmental management systems;
- Supporting Environmental Specialists within the BUs; and
- Coordinating EnviroSystem communications.

2.0 Audit Objectives, Scope and Approach

This audit was part of the approved City Auditor's Office 2016 Annual Audit Plan. During the planning phase of the audit, we facilitated an ESM workshop to identify risks related to ESM's lines of business and assist in narrowing the scope of the audit. The workshop identified ESM's existing governance structure and unclear roles and responsibilities as a risk, which could impact ESM's objectives. Based on further research and interviews we determined that the audit would focus on SSD's oversight role over the EnviroSystem due to the criticality of the EnviroSystem in evaluating The City's environmental compliance and related value in identifying risks and performance improvements.

2.1 Audit Objective

The objective of this audit was to evaluate the effectiveness of SSD's oversight over the EnviroSystem, which supports The City's environmental commitments. The objective was achieved by assessing the design and effectiveness of controls in place to mitigate the following risks:

- Ineffective audit program to evaluate the effectiveness of the EnviroSystem and its capability to ensure compliance with legal requirements; and
- Failure to communicate corporate environmental risks, performance, corporate level data analysis and trending to assess effectiveness of the EnviroSystem.

Our assessment incorporated risks identified in the workshop to the extent they applied to the activities under review and were identified in observations through root cause analysis.

2.2 Audit Scope

The scope of this audit included SSD's oversight activities that supported the EnviroSystem from January 1, 2014 to December 31, 2015.

2.3 Audit Approach

In addition to conducting interviews with ESM staff to understand processes, and testing of controls, our audit approach included review and assessment of documents[2] including:

- Internal Audit Program Manual
- Annual Audit Schedule
- EnviroSystem and Compliance Audit reports
- Compliance Protocols

[2] Where documents included environment and health and safety, the focus of our review was on environmental components.

- Corrective & Preventive Action Guidance
- EHS Risk Register
- Monthly Exception Reports
- Semi-annual Compliance Reports
- Governance Reports
- Reports Terms of Reference
- Corporate Aspects Ranking Procedure

3.0 Results

We assessed SSD controls and practices against the IAP framework, ISO 14001(Environmental Management System Standards), ISO 14004 (Environmental Management System-General Guidelines) and ISO 19011 (Guidelines for Auditing Management Systems) and the City's Integrated Risk Management (IRM) framework. We concluded that controls need to be improved to ensure that SSD's key EnviroSystem oversight activities are effective and continue to provide value to The City. The following sections provide further details on SSD's activities and our recommendations.

3.1 Internal Audit Program

Internal Audit Program Mandate

The City's ISO certification model changed significantly in 2009. Although, SSD continues to conduct the internal audits under the new model for the registered BUs, ESM's mandate was not re-assessed or updated to clarify key responsibilities to manage and deliver the IAP. Based on ISO 14001, a clear mandate to manage the IAP and defined roles and responsibilities, are essential to provide effective and reliable assurance. In the absence of a defined mandate to manage the IAP there is a risk that internal audits may provide false assurance. We recommended that ESM's mandate and authority be re-evaluated, and confirmed with ALT to reflect changes to the decentralized model and ensure audit program effectiveness (Recommendation 1).

Internal Audit Program Management and Delivery

We reviewed audit plans, audit schedules and eight audit reports (36% of audit reports issued during the audit period under review). Our testing noted timely completion of the sampled combined audits as per the annual audit schedules. We also confirmed audit reports were prepared for each sampled audit to communicate audit results to BU management. The audits were performed by SSD's lead auditors (one active and two stand by) who are certified to perform environmental audits based on ISO 19011 requirements. The audit team (one to two auditors) also followed up on corrective actions against audit findings during subsequent annual audits.

However, the results of our review of the IAP indicated that changes to the certification model along with an undefined mandate create challenges in managing and delivering an effective audit program. We determined that the IAP may not facilitate the effective assessment of conformity with ISO 14001 standards and compliance with environmental legislation.

Audits are a critical tool for monitoring and verifying the effective implementation of an organization's environmental system (EnviroSystem). ISO 19011 indicates that managing an audit program consists of a number of responsibilities including:

- Determining the extent of the program including the number, types, duration, location and schedule of the audits;
- Determining the scope of each audit including factors such as physical locations, organizational units, activities and processes to be audited, as well as the time period covered by the audit;
- Allocating sufficient resources to complete the audits; and
- Evaluating the competence of auditors and lead auditors.

We raised the following recommendations to ensure the audit program is effective both for the short-term and long-term once the mandate is re-evaluated (Recommendations 2-4):

- Establish risk based periodic audit cycles in consultation with BUs;
- Develop audit schedules to ensure sufficient time to complete the audit;
- Ensure adequate resources are available to implement the audit schedule and gaps are escalated for resolution;
- Develop a process to ensure support auditors are qualified, SSD auditors maintain their qualifications and all auditors' performance on internal audits is evaluated; and
- Assign accountability and define roles and responsibilities for oversight of the IAP.

Internal Audit Program Efficiencies

Although SSD has coordinated training on the implementation and auditing of the 2015 ISO 14001 standard for BU representatives, SSD does not provide internal audit or professional development training for lead or support auditors on a regular basis. Potential cost savings could be realized through SSD coordination of group on-site environmental auditor training. We recommended that SSD consider the opportunity of supporting ongoing auditor training and development on a more cost effective basis (Recommendation 4).

SSD monitors and follows up on corrective actions identified in internal and external audits during subsequent audits. As per ISO 14004, keeping records of corrective actions and managing them effectively provides a reliable source of information on the operation and results of the environmental management system. Although the suggested system to track audit findings is SSD's EnviroTracker database, BUs can use different systems. Multiple systems to track and monitor audit findings and corrective action plans could result in extra costs and process inconsistencies. We recommended that SSD work with BUs to identify options for a standard process and/or system to collect, store and monitor audit findings and corrective action plans (Recommendation 5).

3.2 Environment, Health and Safety Risk Register

SSD maintains the EHS Risk Register on behalf of The City and updates the register regularly as part of the governance reporting to ALT. SSD is currently developing a new Corporate EHS Risk Management Framework in collaboration with IRM. Identification of corporate environmental objectives is essential for risk identification, analysis and evaluation.

Although the EHS Risk Register process has been updated to align with IRM standards, risks may not be adequately identified, analyzed and ranked in the corporate EHS Risk Register since corporate environmental objectives are not clearly defined. Further, the EHS Risk Register concentrates on selected "strategic" corporate risks and does not consistently leverage risks assessed by BUs through IRM and ISO 14001. We recommended that ESM defines overall corporate environmental objectives for risk assessment, with ALT confirmation and that SSD develop a consistent corporate environmental risk register process that generally aligns with IRM guidelines (Recommendations 6 and 7).

3.3 Environmental Risk and Performance Reporting

We reviewed the four Governance Reports issued during the audit period under review and the Draft Terms of Reference. Governance Reports have changed to focus more on corporate level environmental risks as evidenced by the draft terms of reference. Although focusing on risk and mitigation strategies assists with environmental risk management, we noted that the Governance reports include limited information on environmental performance. Based on ISO 14004, reporting on environmental performance can foster discussion on performance and promote continual improvement. We recommended that ESM confirm their mandate to report on corporate environmental performance with ALT and finalize the Governance Report Terms of Reference accordingly (Recommendation 8).

We reviewed a sample of eight monthly Exception Reports, and all four semi-annual Compliance Reports issued during the audit period under review and the related Terms of Reference. SSD provided these reports on a timely basis to ALT and the SPC on Utilities and Corporate Services respectively. The reports included the information outlined in the related terms of reference and satisfied ISO 14004 requirements to communicate environmental performance internally and externally.

We noted that there were opportunities to improve the Exception Reports by including insights on corporate trends and the overall health of the EnviroSystem. In addition, we identified an efficiency opportunity to reduce the frequency and improve the format of the report. We recommended that SSD evaluate alternate communication methods and include corporate level data analysis in Exception Reports and Compliance Reports (Recommendation 9).

We would like to thank staff from ESM for their assistance and support throughout this audit.

4.0 Observations and Recommendations

4.1 Authority for the Internal Audit Program

The ISO 14001 certification model at The City changed from centralized to decentralized in 2009. However, the IAP and ESM's mandate to deliver the IAP were not reevaluated to address the changes. The ISO 14001 Standards outline the importance of audits as a management tool for monitoring and verifying the effective implementation of an organization's environmental system. Audits are also a critical tool of conformity and compliance assessment activities such as external certification and regulatory reviews. Without a clear mandate to manage the IAP and defined roles and responsibilities, there is a risk that internal audits may provide false assurance. In addition, clarity on mandate could assist with the implementation of improvements to the IAP and optimize the use of resources.

After 2009, environmental management moved to a decentralized model shifting accountability for environmental management to Department General Managers. SSD provides management system support to the ISO registered BUs. However, most registered BUs also have an Environmental Specialist that directly oversees their ISO 14001 certification.

Under, the 2009 model, SSD continues to conduct the internal audits for the ISO 14001 registered BUs. Since SSD staff are independent of the BUs being audited they can fulfill the requirement of ISO 14001 that audits are planned and conducted by an objective and impartial auditor. ESM's IAP framework defines how The City undertakes internal EnviroSystem and environmental compliance audits of its operations. However, the IAP is outdated and doesn't reflect the current certification model (last updated in 2006).

Our review of the IAP, audit plans, audit schedules, internal audit reports (36% of last two years), external audit reports, and interviews identified the following challenges in implementing an effective IAP under the current model (See Sections 4.2 to 4.4 for additional details):

- BUs develop the audit cycles and audit plans. Although SSD provides input, the BUs may choose the areas to be audited, the scope and timing of the audit, which could compromise auditor independence.
- The audit scope of our sample audits was broad and included an assessment of all ISO 14001 elements and a portion of compliance protocols and the audits were completed in two to three days. This approach poses a risk of providing false assurance due to the limited time to complete the audit.
- SSD conducted a self-assessment in 2016 that indicated that due to limited time and resources allocated to the internal audits, the audits do not currently evaluate conformity and compliance in a thorough enough manner, and there is potential for undetected environmental risks. Improvements identified have not been implemented to date.
- The external audit reports noted similar findings regarding the overall time spent onsite and identified the opportunity to use a risk based approach.
- 37.5% of audits reviewed were conducted by one SSD auditor without the participation of a support auditor from a BU, which could be an indication of inconsistent BU commitment to support resourcing.

- SSD is not performing environmental compliance audits of BUs that are not registered under ISO14001, which could result in undetected risks.
- BUs may choose to use an external third party contractor to conduct internal audits rather than SSD. For example, Fleet currently outsources internal audits.
- Not all BUs are using EnviroTracker, the SSD supported centralized database, to track environmental issues and audit findings, which could result in inefficiencies.
- Some BUs are using external vendors to provide environmental audit and professional development training to staff, which could also be inefficient.

The ISO 19011 standard provides guidance on the management of the internal audit program, and the conduct of internal or external audits of management systems. ISO 19011 states that: "An organization's top management should grant the authority for managing the audit program. Those assigned the responsibility for managing the audit program should establish, implement, monitor, review and improve the audit program".

The results of our review of the IAP indicate that the current hybrid approach (decentralized certification with centralized auditing) to managing the IAP coupled with an undefined mandate create challenges in ensuring an effective audit program. In addition, a lack of clarity on mandate and authority can hamper the implementation of improvements and the effective and efficient use of resources. ESM's mandate and authority should be reviewed, revised, and confirmed with the ALT to reflect changes to the decentralized model and ensure audit program effectiveness.

Recommendation 1

The Director of Environmental & Safety Management (ESM):

- Evaluate ESM's mandate and roles and responsibilities to manage the Internal Audit Program (IAP) under the current certification model;
- Confirm ESM's mandate to manage and deliver the IAP with the Administrative Leadership Team (ALT); and
- Revise and update the IAP framework to reflect ESM's mandate, roles and responsibilities.

Management Response: Agreed
In its governance capacity, ESM provides the corporation with a management system (EnviroSystem) to ensure due diligence with respect to managing environmental risks, performance, and legislative compliance is upheld. In response to specific system and reporting recommendations outlined in this report, ESM will develop a future-state Corporate Environmental Management System that considers interconnected processes and governance requirements, including the IAP, and corporate environmental risk and performance reporting. All relevant aspects of longer term management system improvements will be brought to ALT for approval as required.

In the interim, improvements and maintenance to the current state of the EnviroSystem, including the IAP, risk reporting and data management, will be immediate and ongoing to reduce risk and improve service delivery until the longer term management system can be developed, approved and implemented.

Action Plan	Responsibility
1. The Director of ESM has instructed the business unit to review options for a future-state Corporate Environmental Management System, including a conceptual model for ISO 14001 registration. The recommended model and associated governance requirements, including ESM's role with respect to managing and delivering the Internal Environmental Audit Program, will be presented to ALT in Q1 2017 for confirmation.	Lead: Director, ESM Support: Manager Strategic Services Division Commitment Date: 1. Presentation to ALT: March 31, 2017
2. ESM's Manager of Strategic Services (as the person responsible for overseeing the management of the Corporate Internal Environmental Audit Program) instructed their team to review and update the Internal Environmental Audit Program Standard. The Internal Environmental Audit Program is being updated to align with ISO 19011:2011 *Guidelines for auditing management systems*. The updated program will: - Establish the high level framework to determine the objectives, scope, standards and procedures for the program, as well as the standards and procedures for conducting individual audits. - Set out the framework of cross-corporate roles and responsibilities necessary to meet the program's objectives. - Set guidelines for establishing risk based audit cycles, audit duration, audit plans and audit schedules. - Outline competence and evaluation requirements for Lead and support auditors, including requirements and options for ongoing training and development. (This also applies to recommendations 2, 3 and 4.)	2. Draft Standard: September 30, 2016 ESM Management review: September 30, 2016 BU stakeholder review: December 30, 2016
3. Based on the ALT confirmed Corporate Environmental Management System and ISO 14001 registration model, ESM will finalize the Internal Environmental Audit Program Standard and develop a framework to manage and deliver the program. The framework will be scalable to the system's model and the cross-corporate roles and responsibilities established in the Corporate Internal Environmental Audit Program Standard. (This also applies to recommendations 2, 3 and 4.)	3. Final Standard and Resource plan: June 30, 2017

4.2 Audit Scope, Schedule & Resources

As a result of the decentralization of ISO 14001 certifications and without a clear mandate for ESM, BUs have, over time, exercised stronger authority to determine audit plans, cycles, and schedules. The IAP may not facilitate the effective assessment of conformity with ISO 14001 standards and compliance with environmental legislation since ESM's objectivity and independence may be negatively impacted. As a result, there is a risk that internal audits may provide false assurance.

ISO 19011 indicates that managing an audit program consists of a number of responsibilities including:

- Determining the extent of the program including the number, types, duration, location and schedule of the audits;
- Determining the scope of each audit including factors such as physical locations, organizational units, activities and processes to be audited, as well as the time period covered by the audit; and
- Allocating sufficient resources to complete the audits.

The results of our review of the IAP are outlined below.

Audit Scope and Duration

We reviewed a sample of internal audit reports (36% of the audit reports completed in the last two years). Based on our review and interviews, we noted that the BUs discuss the audit plans and cycles with the lead auditor, who can provide input. However, the BUs may control the audit plan and cycle and choose the locations and activities and processes to be audited, including the duration of the audit. SSD advised that each BU develops their own three year audit plan and cycle. Although individual sites are audited on a cyclical basis (as suggested by BUs), the scope of the sample audits reviewed included an annual assessment of all ISO 14001 elements and a portion of compliance protocols. In addition, safety compliance was assessed in 25% of internal audits in our sample. Based on ISO 14001, audits should be planned and conducted by an objective and impartial auditor, aided by technical experts, where appropriate, selected from within the organization or from external sources.

The on-site component of the sample audits was completed in two days by one or two auditors. The audits that also assessed safety compliance (25% of our sample) were completed in three days by two auditors. SSD advised that the BUs determine the duration of the on-site portion of the audit. SSD has not established a minimum audit time to cover a combined audit and the time allocated may not be sufficient to thoroughly conduct the audit. The assessment of a broad scope in a limited time may not facilitate a thorough assessment, as reflected in the sample audit reports

ISO 19011 recommends that the extent of an audit program should be based on the size and nature of the organization being audited, as well as on the nature, functionality, complexity and the level of maturity of the management system to be audited. Priority should be given to allocating the audit program resources to audit those matters of significance within the management system (i.e. risk based approach). As per ISO 14004, each audit is not required to cover the entire system, provided the audit program ensures that all organizational functions, system elements and the full scope of the environmental management system are audited periodically.

SSD should establish risk based audit cycles and plans such that higher risk areas are audited more frequently and/or allocated more time than lower risk areas. SSD should consider minimum ISO 14001 and compliance requirements and the time required to complete each internal audit using a risk-based approach to ensure audit effectiveness and efficiency.

Annual Audit Schedule

In 2015, two of the internal audits were completed after the external audits, and two were completed less than two months before the external audit. This is an indication of a lack of coordination between the internal and external audit scheduling. SSD advised that BUs determine the internal and external audit schedules with limited consultation with SSD. We noted that based on the IAP framework, SSD should coordinate the internal EnviroSystem and environmental compliance audit schedule for all City BUs and that the internal audits should be timed to occur no less than two months prior to scheduled external audits. Internal audits should be scheduled to provide sufficient time for BUs to identify and implement potential improvements to the EnviroSystem prior to the external audit.

Resources

ISO 19011 states that there are many risks associated with the internal audit program including insufficient resources. ISO 19011 recommends that the audit program manager determine the necessary resources to implement the audit program taking into consideration the availability of auditors and technical experts having competence appropriate to the audit.

Three of the eight (37.5%) internal audits in our sample were completed by the SSD lead auditor alone. SSD has one active lead auditor and two staff that can provide assistance. SSD relies on assistance from a pool of BU volunteer support auditors. Support auditors contribute environmental management system expertise, however BUs do not support the resources for the audit program consistently. Our review indicated that there is no formal identification and selection of audit resources required to complete annual internal audits. SSD should ensure that adequate resources are available to implement the annual audit schedule and that resourcing gaps are escalated and resolved.

Recommendation 2

The Director of Environmental & Safety Management (ESM):

- Establish risk based periodic audit cycles in consultation with Business Units (BUs);
- Establish audit plans taking into account minimum requirements regarding audit scope (operations, elements and requirements of EnviroSystem and compliance protocols and time period covered);
- Determine the duration of each audit and develop an audit schedule in coordination with BUs; and
- Ensure that adequate resources are available to implement the audit schedule and resourcing gaps are escalated to the Director of ESM and BU management for resolution.

Management Response: Agreed
As an interim and immediate measure, ESM will be dedicating increased resources to the supervision and monitoring of the internal auditing program to ensure the current auditing plan is upheld and delivered with increased rigour.

Action Plan	Responsibility
1. The Director of ESM has instructed that following the completion of the three stages of the Action Plan under Recommendation 1 and based on the confirmed Corporate Environmental Management System and ISO 14001 registration model, ESM will finalize the Internal Environmental Audit Program Standard and develop a resourcing plan to manage and deliver the program. The resourcing plan will be dependent on the confirmed model (e.g. the number and configuration of registrations) and the framework of cross-corporate roles and responsibilities established in the Corporate Internal Environmental Audit Program Standard. (This also applies to recommendations 3 and 4.)	Lead: Director, Environmental & Safety Management Support: Manager Strategic Services Division Commitment Date: 1.Resource Plan: June 30, 2017
2. ESM will develop an implementation framework and work with business units to execute. (This also applies to recommendations 3, and 4)	2. Implementation plan: June 30, 2017 Implementation: To begin July 1, 2017

4.3 Internal Audit Program Oversight

SSD has not defined oversight roles and responsibilities for the management of the IAP. Appropriate oversight provides ongoing assurance that the IAP is effectively implemented and supports timely escalation of issues.

ISO 19011 suggests that "the top management should ensure that the audit program objectives are established and assign one or more competent persons to manage the audit program". The person managing the audit program should ensure the implementation of the audit program, including the establishment of audit objectives, scope and criteria of the individual audits, determining audit methods and selecting the audit team and evaluating auditors. Further, the implementation of the program should be monitored, measured and reviewed to ensure its objectives have been achieved and improvements identified. The program manager should also ensure that audit findings are evaluated for adequacy and audit reports are reviewed and approved.

We reviewed the IAP and noted that roles and responsibilities to manage the audit program are not well defined. As noted under Section 4.2, the BUs plan the audits with input from SSD's lead auditor. The lead auditor also conducts the audits, alone or with another auditor. A review of EnviroSystem audit schedules and plans, and interviews indicated that audit work and reports are not reviewed by supervisory staff in SSD and there is limited oversight over the lead auditor's activities.

Recommendation 3

The Director of Environmental & Safety Management (ESM):

- Assign accountability for oversight of the Internal Audit Program (IAP);
- Define roles and responsibilities for the development, implementation, review and improvement of the IAP; and
- Update the IAP framework to include oversight roles and responsibilities.

Management Response: Agreed

Action Plan	Responsibility
See Action Plan under Recommendation 2.	Lead: Director of Environmental & Safety Management Support: Manager, Strategic Services Division Commitment Date: See Action Plan commitment dates under Recommendation 2.

4.4 Internal Auditor Qualifications

There is no process to validate the qualifications for the support auditors to ensure all auditors have the required competency and expertise to complete the internal audits. In addition, there is no process to evaluate, maintain and improve auditor competence. ISO 19011 states that: "Confidence in the audit process and the ability to achieve its objectives depends on the competence of those individuals involved in planning and conducting the audits." Without ensuring auditors' qualifications and professional development there is a risk that internal audits will not be effective in identifying non-conformance with ISO 14001 and non-compliance with environmental legislation.

ISO 19011 recommends that the audit program manager establish one or more procedures to evaluate the competence (knowledge and skills) of auditors and lead auditors, including determining competence and the need to improve competence, and ongoing performance evaluation. The results of these evaluations provide a basis of selecting team members and determining if additional training is required.

The IAP defines auditor minimum competency requirements related to training and audit experience. We reviewed the records of lead auditors' qualifications (one active and two backup) and validated that they are certified to perform environmental audits based on the IAP requirements. However, we could not review records of support auditors' qualifications since SSD does not validate their certifications. SSD staff advised that although the BU is

primarily responsible to maintain the qualifications of the support auditors, SSD is responsible to maintain records of auditor qualification and training. However, this practice was discontinued after 2012 due to competing priorities and staff/role turnover. SSD should maintain records of support auditor qualifications to assist with the identification of resources and expertise required to complete the internal audit plan.

The IAP also defines the auditor evaluation process, which is designed to assess auditor performance and identify training and skill enhancement needs. Interviews with SSD staff indicated that evaluation of lead and support auditors has not been done in recent years.

Although SSD recently coordinated ad-hoc training on awareness of 2015 ISO 14001 standards for BU representatives, SSD does not currently offer or support internal audit or professional development training for lead or support auditors on a regular basis. BUs use external third party vendors for internal environmental audit training. We reviewed these external providers and noted that often training is provided in Canadian and U.S. locations that would incur travel and accommodation costs. The external training costs generally range from $1500-$2000 per person. Potential corporate cost savings could be realized through SSD coordination of group on-site or in-house environmental auditor training and development opportunities.

Recommendation 4

The Director of Environmental & Safety Management (ESM):

- Develop and implement a process to ensure:
  - Support auditors are qualified to perform internal audits;
  - Lead and support auditors' performance on internal audits is evaluated based on established criteria;
  - Lead and support auditor qualifications are maintained through continuing professional development; and
- Consider the opportunity of supporting ongoing auditor training and development on a more cost effective basis for The City.

Management Response: Agreed

Action Plan	**Responsibility**
See Action Plan under Recommendation 2	Lead: Director of Environmental & Safety Management Support: Manager, Strategic Services Division Commitment Date: See Action Plan Commitment dates under Recommendation 2

4.5 Monitoring Corrective Action

The EnviroTracker database (EnviroTracker) is not updated and used consistently by SSD and BUs to record audit findings and corrective action plans. When an issue is recorded, updates on status are not recorded consistently.

ISO 14001 indicates that effective control of records of nonconformities and corrective and preventive actions is essential to the successful implementation of an environmental management system. Multiple systems are in place to track and monitor audit findings and related action plans, which increases the risk of an ineffective EnviroSystem and could result in inefficiencies due to additional costs.

The IAP framework provides the following guidance to record audit findings: "Major and minor nonconformance and opportunities for improvement are entered into the EnviroTracker database by Environmental Management within seven days following completion of the final audit report". Internal audit reports also outline the requirement for the auditee to input corrective action plans and completion dates into EnviroTracker. However, SSD believes that BUs are responsible to record the audit findings in the EnviroTracker.

Our review of the audit reports in our sample and interviews with staff indicated that SSD follows up on corrective actions during subsequent annual audits. We compared the findings reported in our sample of internal audit reports to information in EnviroTracker. The data (findings) in EnviroTracker did not match the number of findings in 62.5% of internal audit reports reviewed (five). The number of open findings in EnviroTracker did not match the number listed in the internal audit report for 25% of reports reviewed (two).

The IAP includes requirements to use the EnviroTracker for monitoring and tracking of audit findings, however the IAP is outdated and has not been updated since the certification model changed. SSD validates corrective actions status in the next audit and reports back on the status of corrective actions. However, BUs have some autonomy to use different systems, such as the Water Resources BU that uses a system called SETA. Using multiple systems to track and monitor audit findings and corrective action plans could result in additional costs and process inconsistencies.

Recommendation 5

The Director of Environmental & Safety Management (ESM) work with Business Units (BUs) to identify options for a standard process and/or system to collect, store and monitor audit findings and corrective action plans.

Management Response: Agreed
As noted under the Action Plan for Recommendation 1, ESM is reviewing options for a future-state Corporate Environmental Management System, including a conceptual model for ISO 14001 registration. The recommended model will be presented to ALT in Q1 2017 for confirmation. The design/structure of the model design will influence the type, scope and scale of process and/or system needed to collect, store and monitor audit findings and corrective actions.

Action Plan	Responsibility
1. Working with the City Auditor's Office, ESM will identify options for a standard process and/or system to collect, store and monitor audit findings and corrective actions and conduct a preliminary options analysis. 2. Based on the confirmed Corporate Environmental Management System and ISO 14001 registration model (See action plan for Recommendation 1), ESM will present a recommended process and/or system to collect, store and monitor audit findings to ESM's Manager of Strategic Services for approval. 3. ESM will work with BUs to implement the approved process and/or system to collect, store and monitor audit findings. ESM will update the Corporate Non-conformity and Corrective Action Procedure, and exception reporting, which outlines the procedures and tools for tracking and reporting non-conformities, including audit findings, and corrective actions.	Lead: Director, Environmental & Safety Management Support: Manager, Strategic Services Division Commitment Date: 1. Preliminary options analysis: March 31, 2017 2. Presentation of recommended option: June 30, 2017 3. Date dependent on the type, scope and scale of the selected process/system.

4.6 Corporate Environmental Risk Register

ESM has not clearly defined the corporate environmental objectives against which it is identifying, analyzing and evaluating risks in the corporate EHS risk register. Risks and opportunities may not be adequately identified, analyzed and ranked. The process could be more effective by defining corporate strategic environmental objectives and confirming the objectives with ALT.

SSD maintains an EHS Risk Register on behalf of The City based on the principles of the corporate IRM program. SSD reports corporate EHS risks to the ALT in a semi-annual Governance Report "for which management effort is considered worthwhile, required, or essential and which may prevent The City from achieving desired targets, outcomes, objectives or service levels". The City defines risk as anything that might impact the ability to achieve objectives. The City's IRM Framework includes best practices for risk management and is based on Canadian Standards Association CSA/ISO31000. As per the IRM framework, clear objectives help an organization to identify risks to success. Objectives should be based on what an organization is trying to achieve and should be defined and clarified.

We reviewed the Corporate EHS Risk Register process and related documents (Governance

Reports, EHS Risk Management Guide, and Governance Report Backgrounder) and noted that the EHS Risk Register is updated regularly as part of the Governance reporting to ALT. However, our review indicated that objectives are not defined in the corporate EHS risk register. Without clear objectives it may be difficult to rank risks consistently (i.e. over-ranking or under-ranking). ESM should identify corporate environmental objectives and confirm the objectives with ALT.

SSD is currently developing a new Corporate EHS Risk Management Framework in collaboration with IRM. The framework is at an early stage and should include objectives confirmed with ALT, risk register scope, and interaction and alignment with BUs' risks registers.

Our review of risk register process and documents indicated that SSD's process to develop and maintain the corporate EHS Risk Register is evolving. The process could be more effective by leveraging BU risk identification processes. SSD has a mandate to report corporate environmental risks, as defined in ESM's objectives and Governance report. A well-defined risk register process to identify and analyze corporate wide risks will facilitate achievement of corporate strategic environmental objectives.

As part of ISO 14004, each organization should identify significant environmental aspects (risks) by establishing criteria, including organizational concerns. The City's Corporate Aspects Ranking Procedure outlines the process to rate consequences and likelihood of environmental aspects at the BU level. The Corporate Aspects Ranking Procedure states that: "An environmental aspect is any element of an organization's activities, products or services that can interact with or impact the environment. All environmental aspects must be assessed to identify their relative risk based on the most probable events of an aspect".

We noted that the EHS Risk Register is focused on capturing selected "strategic" corporate risks, and excludes environmental aspects assessed by BUs. There is an opportunity to leverage the Corporate Aspects Ranking Procedure and collect additional risk information from BUs.

Recommendation 6

The Director of Environmental & Safety Management:

- Identify overall corporate environmental objectives for risk assessment purposes and confirm with the Administrative Leadership Team; and
- Coordinate with Integrated Risk Management to ensure objectives are incorporated into Business Unit (BU) risk registers.

Management Response: Agreed

Action Plan	Responsibility
1. Through the Environmental Policy Review, Corporate Environmental Governance Review project and the Service Lines Portfolio project ESM will define the corporate environmental governance role and how	Lead: Director, Environmental & Safety Management

Action Plan	Responsibility
defining corporate environmental objectives relates. ESM will work with Corporate Initiatives through the Integrated Performance System to coordinate development of environmental objectives and consider incorporation in BU Risk Registers. The Service Lines Portfolio project includes defining ESM lines and levels of service with Director approval and is part of The City's next business planning cycle, which will follow corporate time lines.	Support: Manager Strategic Services Division Commitment Date: Environmental Policy Review project completion: December 30, 2016 Current State Assessment of Environmental Governance at The City of Calgary complete with recommendations for Director approval: December 30, 2016

Recommendation 7

The Director of Environmental & Safety Management (ESM)develop a consistent corporate environmental risk register process that generally aligns with the corporate Integrated Risk Management (IRM) framework and integrate Business Unit (BU) environmental aspects and risk analysis in the process.

Management Response: Agreed

Action Plan	Responsibility
1. ESM is updating the Corporate Environmental Aspects Ranking Procedure to align with IRM and the Corporate Environment Health and Safety (EHS) risk register. The procedure applies to all ISO registered BUs. 2. ESM continues to build the corporate EHS risk identification and analysis process in consultation with IRM including a process for capturing business unit EHS risk and aligning those risks to the corporate EHS risk register.	Lead: Director of Environmental & Safety Management Support: Manager, Strategic Services Division Commitment Date: 1. Complete Corporate Environmental Aspects Ranking Procedure update: September 30, 2016. 2. Complete the corporate EHS risk identification and analysis process for approval by SSD Manager: December 30, 2016.

4.7 Corporate Environmental Performance Reporting

Although SSD is reporting corporate environmental risks to ALT in Governance Reports, the reports contain limited information on corporate environmental performance. Corporate environmental performance should be monitored and reported to ensure that corporate goals are being achieved and to identify improvements required.

SSD is responsible to monitor and report on corporate environmental performance to support The City's compliance with legislation and risk management. ISO 14004 states that "an organization should establish, implement and maintain procedures for communicating internally and externally on its environmental policy, performance or other information, based on its own needs and the needs of interested parties". As per ISO 14004, such communication can bring the following benefits:

- Raising awareness and encouraging dialogue about the organization's environmental policy, environmental performance and other relevant achievements; and
- Promoting continual improvement of environmental performance.

ISO 14004 also states that communication on the organization's environmental performance can include trends (e.g. waste reduction, product stewardship, past performance).

Based on ALT direction to report on EHS governance and performance, ESM prepares Governance Reports twice annually. The Governance Report is a tool "to communicate risks, set strategies and targets, suggest ways to address or mitigate risks, and to make recommendations as they relate to corporate EHS risks and performance".

We reviewed the Governance Reports for the last two years and related documents and noted that Governance Reports are evolving to focus on corporate level environmental and safety risks. Environmental performance is included only to the extent it is related to a corporate environmental risk. ESM has drafted Terms of Reference for the Governance Report that align with the evolution noted above.

Corporate environmental performance monitoring and reporting helps to ensure the achievement of corporate environmental goals and targets and can result in improved corporate environmental performance. ESM should confirm their mandate to report on corporate environmental performance with ALT and adjust the Governance Reports based on ALT direction.

Recommendation 8

The Director of Environmental & Safety Management (ESM):

- Confirm ESM's mandate to report on corporate environmental performance with the Administrative Leadership Team; and
- Finalize the Corporate Environment, Health & Safety (EHS) Governance Report Terms of Reference to define accountabilities, contents, and information collection process based on the mandate.

Management Response: Agreed

Action Plan	Responsibility
1. ESM is currently developing an EHS Reporting Strategy and will revise the current system based on Director approval of the strategy. 2. Through the Corporate Environmental Governance Review project and the Service Lines Portfolio project ESM will define its role in reporting corporate environmental performance. 3. ESM will develop terms of reference for each report type based on the Director approved EHS Reporting strategy. As a first step, ESM will be including more performance information and opportunities for improvement (to support continual improvement) in the 2016 October Governance Report.	Lead: Director, Environmental & Safety Management Support: Commitment Date: 1. Draft EHS Reporting Strategy: December 30, 2016 2. Corporate Governance Structure/ESM review and recommendation for Director approval: December 30, 2016 Director approval for EHS Reporting Strategy: March 31, 2017 3. Terms of References developed and/or updated for ESM reports: June 30, 2017

4.8 Environment, Health and Safety Exception Reporting

Although current monthly and semi-annual environmental reports provide information to ALT and Council on environmental performance, the efficiency and effectiveness of communication could be improved by using alternate communication tools and by including insight on trends and the overall health of the EnviroSystem. ISO 14004 suggests that "an organization should establish, implement and maintain procedures for communicating internally and externally on its environmental policy, performance or other information, based on its own needs and the needs of interested parties". As per ISO 14004, a variety of methods (e.g. websites) can be considered for internal communication.

SSD prepares Exception Reports for the ALT and Compliance Reports for the SPC on Utilities and Corporate Services. Terms of Reference were developed for each of these reports in November 2015, outlining roles and responsibilities, timing and contents.

We reviewed a sample of the Exception Reports and the Compliance Reports from 2014 and 2015 and the related terms of reference and noted that these reports do not include corporate level data analysis or trending that could provide insight on actions required or the overall health of the EnviroSystem. There is an opportunity to improve the effectiveness of reporting by including this type of information.

SSD collects and compiles the information for the reports each month. There is an efficiency opportunity to revisit the format (e.g. dashboard, website) and frequency of the non-strategic information included in these reports, which may result in resource efficiencies. We noted that, in 2015, SSD assessed reporting structures for the Exception Reports and Compliance Reports. SSD recommended the Exception Reports be replaced by monthly dashboards, and the termination of the Compliance Reports. Although, these recommendations were approved in principle by Utilities and Environmental Protection senior management they have not been implemented.

Recommendation 9

The Director of Environmental & Safety Management (ESM) should evaluate alternate communication methods (e.g. dashboards) to report Environment, Health and Safety (EHS) information, including corporate level data analysis and trending, in Monthly Corporate EHS Exception Reports to the Administrative Leadership Team and Semi-annual Corporate EHS Management Systems and Compliance Reports to the Standing Policy Committee on Utilities and Corporate Services.

Management Response: Agreed

Action Plan	Responsibility
1. ESM is currently developing an EHS Reporting Strategy and will consider alternative methods for reporting as a component of this review. (See Recommendation 8 Action Plan) 2. ESM is currently undertaking a dashboard development project for EHS related information sharing with different levels of corporate management representatives.	Lead: Director of Environment & Safety Management Support: Manager, Strategic Services Division Commitment Date: 1. See Recommendation 8 commitment dates 2. Dashboard project completion: March 31, 2017