

2015 Q3 AND Q4 CORPORATE ENVIRONMENT, HEALTH AND SAFETY MANAGEMENT SYSTEM AND COMPLIANCE REPORT



**SIGNIFICANT EHS INCIDENTS, REGULATORY
INFRACTIONS AND AUDIT ACTIVITY**



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1. OVERVIEW

Environmental & Safety Management (ESM) provides corporate stewardship in environment, health and safety (EHS) management and compliance across The Corporation. ESM maintains a monthly monitoring and reporting program to provide the Administrative Leadership Team (ALT) with advisory reports on significant EHS incidents, regulatory infractions and audit results. This 2015 Q3 and Q4 Corporate Environment, Health & Safety (EHS) Management Systems and Compliance Report provides Council with a summary of the significant EHS incidents, regulatory infractions and audit results that were reported to ALT for 2015 July through 2015 December. The Q1 and Q2 Corporate Environment, Health & Safety (EHS) Management Systems and Compliance Report (UCS2015-0743) was presented on 2015 September 18.

2. SIGNIFICANT INCIDENTS

Five significant EHS incidents were reported for 2015 Q3 and Q4. A significant EHS incident is defined as:

- A hazardous or dangerous materials spill/release with the potential to compromise the integrity of environmental assets.
- An incident or worker injury that is reportable to Alberta Occupational Health and Safety as per the Occupational Health and Safety Act.
- An event that may represent potential liability concerns or reputation risks to The City.
- Collapse or upset of heavy equipment or building component.
- Incidents with likelihood of significant regulatory interaction.

2.1 AMMONIA RELEASE

In 2015 July, an uncontrolled ammonia release occurred at a Calgary Recreation (formerly Recreation) sports arena. The leak was caused by a failed shaft seal on a compressor, resulting in a release of 5 – 20 lbs of ammonia. The facility was evacuated and there were no injuries. Response crews used a water curtain and water cannon to contain the ammonia vapour and remove it from the atmosphere. Water generated by response activities was monitored for pH and discharged to the storm sewer system. Once the release was controlled, contractors repaired the compressor and replaced the ammonia sensor.

2.2 SLIP CAUSING ARM INJURY

In 2015 July, a Waste and Recycling employee's hands slipped off a four-yard waste bin while pulling it, causing the employee to fall back and injure their left arm. The worker underwent surgery for the arm injury. Alberta Occupational Health and Safety (OHS) was notified of the incident.

Corrective actions included reviewing recommended body positioning and bin handling techniques with employees, installing additional handles on the bin, and requesting that the commercial complex where the injury occurred to make alterations to the work area to improve safety.



2.3 ELECTRICAL LINE STRIKE

In 2015 July, a buried electrical line strike occurred while a Water Resources & Water Services subcontractor was drilling a geotechnical borehole. Drilling activities were supervised by a subconsultant hired by the Prime Contractor. The incident did not result in any injuries; however, contact with the buried line tripped a breaker in a nearby electrical substation causing a power outage to homes and businesses in the affected area.

Prior to initiating drilling activities line locators completed a sweep of the proposed drilling location and indicated that the work area was clear of utilities. However, during the incident investigation, the owner of the struck electrical line determined that the multiple ducts and buried electrical lines had been improperly marked by their locator.

2.4 POTENTIAL FIREARM AT WORKSITE

In 2015 September, Calgary Police Services attended a security concern regarding a youth with a potential firearm at a Calgary Neighbourhoods (formerly Community & Neighbourhood Services) worksite. Calgary Police Services secured the worksite without incident. A critical stress incident debriefing occurred the following morning with affected staff members. An operational debrief was conducted in 2015 October.

Based on the outcomes of the operational debrief, the business unit has updated and tested their Emergency Response Plan for this worksite and crisis intervention training for Calgary Neighbourhoods staff has continued. Communication plans for emergency response now involve notifications to Corporate Security who can better correspond to Calgary Police Services during these types of responses. In order to ensure appropriate response during lock downs or shelter in place, an additional recommendation was to strengthen the coordination of response between Calgary Neighbourhoods and external partners working at the facility by enhancing the understanding each other's responses and communication channels.

2.5 CONTRACTOR STRUCK BY EXCAVATOR

In 2015 October, a worker employed by a Prime Contractor was fatally injured when struck by an excavator on a Water Resources & Water Services site. The Prime Contractor was responsible for safety on the site. Two Stop Work Orders concerning unsafe movement of a machine and an unsafe excavation were issued by Alberta OHS. After a site inspection with the Prime Contractor, Alberta OHS and City representatives, Alberta OHS and The City permitted the Prime Contractor to return to work with instruction to provide The City with copies of the investigation report and any Orders from Alberta OHS. The incident currently remains under investigation by the Prime Contractor and Alberta OHS.



3. REGULATORY INFRACTIONS

Three actual and potential regulatory infractions were reported for 2015 Q3 and Q4.

3.1 LIGHT RAIL VEHICLE PREVENTATIVE MAINTENANCE PROGRAM

In September, Alberta OHS responded to an employee complaint with regards to Calgary Transit's preventative maintenance program of light rail vehicle (LRV) rail cars. The OHS Officer was provided with manuals, inspection documents and a maintenance program process for the three different LRV rail cars. The Officer was satisfied with the information given and closed the Order.

3.2 BIRD AND WILDLIFE SWEEPS

In October, work including the removal of approximately six trees on private property (not City-owned land) was carried out by the Office of Land Servicing and Housing, with the consent of the land owner, within the restricted activity period of the Federal Migratory Bird Contravention Act. ECO Plan Compliance Inspections conducted in June and October noted that a bird and wildlife sweep had not been completed in the work area prior to commencing work for that particular phase of the project.

The root cause of the potential infraction was determined to be a lack of awareness that a bird and wildlife sweep is required prior to the commencement of a new phase of a project or immediately prior to removing trees on privately owned land. The Office of Land Servicing & Housing is now familiar with the requirements. No interaction with the federal government resulted from this potential infraction.

3.3 FALL ARREST EQUIPMENT

In October, an immediate danger complaint was received by Alberta OHS in relation to a roofing contractor that was hired by Calgary Housing Company. Employees of the contractor carrying out the roofing works for Calgary Housing Company were not using appropriate fall arrest equipment and, as a result, a Stop Work Order was issued to the contractor. The order was lifted after 45 minutes as the equipment had been supplied by the manager and was available for use by the worker.

Calgary Housing Company immediately followed up with the contractor requesting an incident investigation. The incident report and corrective actions received from the contractor were not satisfactory and as such the contractor has been removed from the Calgary Housing Company approved vendor list.



4. AUDIT ACTIVITY

The City's environmental management system is based on the ISO 14001 international standard for environmental management. The City holds 11 business unit level ISO 14001 registrations. In addition, Fleet Services holds an integrated registration for ISO 14001, ISO 9001, and OHSAS 18001. Internal and external audits must be conducted to maintain the ISO registrations. Internal audits assess conformance to the elements of the ISO 14001 standard as well as compliance to regulatory or legal requirements. External audits assess conformance to the ISO standard including the effectiveness of the internal audit program and the process for evaluating regulatory compliance. All audited business units maintained their respective ISO 14001 registrations in 2015.

The City also participates in the provincial Partnerships in Injury Reduction program, which requires an external occupational health and safety management system audit every third year to re-qualify for a Certificate of Recognition (COR). The City's last external audit was conducted in 2013. After each audit, an action plan is developed to address opportunities for improvement. The action plan is monitored and progress reports are provided throughout the year to senior management. Annual reports on the action plan are also submitted to the certifying body in the years between external audits. The 2015 COR action plan was accepted by the certifying body and the next audit is scheduled for 2016.

Ten environmental audits were completed between 2015 July 1 and December 31:

- Five internal ISO 14001/compliance audits were completed by City staff for Transportation Infrastructure, Waste & Recycling Services, Calgary Fire Department, Water Resources & Water Services, and Calgary Transit.
- Five external re-registration audits were conducted by The City's external Registrar for Calgary Recreation, Calgary Parks, Roads, Corporate Properties & Buildings, and Transportation Infrastructure.

In addition to the environmental audits, three safety audits and assessments were conducted between 2015 July 1 and December 31:

- An internal assessment of specific elements of the Calgary Fire Department's safety management system was performed by City staff.
- A limited internal assessment of Calgary Transit's Occupational Health and Safety Management System and compliance was conducted by City staff.
- An external health and safety audit of Calgary Transit's rail safety system was conducted by the American Public Transportation Association (APTA).

4.1 MANAGEMENT SYSTEM NON-CONFORMITIES

No major management system non-conformities were identified by the internal or external audits. Several minor management system non-conformities were identified and have been reported to the Administrative Leadership Team. Many of the minor non-conformities have already been addressed and



business units are currently developing and implementing actions to correct the remaining non-conformities.

The APTA audit of Calgary Transit's rail safety system confirmed that 13 of the 63 findings from the previous 2014 audit have been closed and no new findings were identified. Calgary Transit has a plan to close the remaining 2014 findings within three years of the 2014 audit, in accordance with APTA's requirements.

4.2 NON-COMPLIANCE FINDINGS

Three regulatory non-compliance findings were identified by the internal environmental audit program:

- Waste & Recycling Services: More than one year had passed since the latest inspection of fire extinguishers at one location, a contravention of the Alberta Fire Code.
- Calgary Transit: The servicing of the light rail vehicle air conditioning systems is contracted out. Service records were not available for review to confirm that the regulatory requirements/provisions regarding qualification of technicians, substance release reporting and material inventory are being met.
- Calgary Transit: Contaminated absorbent materials resulting from the cleanup of combustible or hazardous materials at one facility were not properly stored or disposed of.

Seven regulatory non-compliance findings were identified by the internal assessments:

- Calgary Fire Department: Monthly fire extinguisher checks were not being completed or documented on the provided tags at most of the fire stations visited. The annual maintenance was being completed.
- Calgary Transit: A carbon monoxide detector at one visited facility was two months past its calibration due date.
- Calgary Transit: An expired eye wash bottle was found at one facility and a used eye wash bottle was found at another.
- Calgary Transit: Inspection log books for a crane and two hoists found at one facility were not available.
- Calgary Transit: A working alone communication process was not in place to ensure employees from one lot are contacted regularly while working alone.
- Calgary Transit: One chemical storage cabinet was not properly labelled.
- Calgary Transit: The annual inspection of one fire extinguisher was found to be out-of-date.

Specific corrective action plans have been developed to address each of the audit findings. The corrective actions will be reviewed and assessed for effectiveness and implementation during the 2016 audits.

4.3 POSITIVE MANAGEMENT PRACTICES

Examples of positive management practices and initiatives noted during the audits include:

- Transportation Infrastructure has an online system in place that allows project managers throughout The Corporation to identify the materials that Transportation Infrastructure has available for re-use (soils, etc.).
- Waste & Recycling Services has implemented environmental impact management practices for construction projects that include weekly meetings between project managers and contractors to address environmental issues.
- A fleet optimization charter was created and shared between Water Resources & Water Services, Waste & Recycling Services and Fleet. The charter considers right-sizing, vehicle utilization, and other fleet management considerations to lessen fuel consumption within our fleet. Although this initiative is fundamentally focused on financial efficiency, there will be environmental benefits.
- A new F.O.G. (fat, oil and grease) program for city businesses has been initiated to reduce the wastewater system demands and increase the amount of digester gas available to produce heat and power required for wastewater treatment.
- At the Inglewood Bird Sanctuary, damaged boardwalks and deposited wood resulting from the 2013 flood were salvaged and reused in trail rebuilding and stabilization, reducing waste going to landfill.
- Parks is conserving water by implementing a research program that determines the appropriate balance of irrigated water with environmental conditions required to maintain healthy turf, also reducing maintenance costs such as those for mowing.
- A comprehensive assessment of salt impacts and mitigations at a Roads depot has been completed, resulting in the supply of 'pickle' (a sand and salt-coated gravel mixture) now being covered to help to prevent further salt contamination at the depot.