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IMPLEMENTATION OF ISO14001 ENVIRONMENTAL MANAGEMENT SYSTEM FOR SOLID WASTE MANAGEMENT AND THE INTEGRATION OF THE QUALITY AND ENVIRONMENTAL MANAGEMENT SYSTEMS

The Solid Waste Management Committee recommends the adoption of the recommendation contained in the following report dated February 26, 2009, from the Commissioner of Environmental Services.

1. RECOMMENDATION

It is recommended that:

1. The following report be received for information by Committee and Council.

2. PURPOSE

This report updates Council on the progress made to date and implementation schedule to develop an ISO14001 Environmental Management System for selected solid waste management facilities.

3. BACKGROUND

Implementation of an Environmental Management System for Solid Waste Management will expand the scope of the existing ISO14001 registration for wastewater operations

On June 21, 2007, Regional Council adopted Clause 5 of Report No. 7 of the Solid Waste Management Committee. The report endorsed development of a Solid Waste Environmental Management System along with a Solid Waste Environmental Policy. A reorganization of the Environmental Services department integrated the former branches of Solid Waste Management and Water and Wastewater. This created a unique opportunity to incorporate the Solid Waste Environmental Management System into the existing wastewater ISO14001 Registration by expanding the scope of the registration. Consequently, a new Integrated Management System Policy was developed (*see Attachment 1*) and implemented that encompasses the entire Environmental Services Department, including Water and Wastewater Operations and Solid Waste Management.

4. ANALYSIS AND OPTIONS

York Region has demonstrated leadership with implementation of Quality and Environmental Management Systems

ISO 14001 and ISO 9001 are internationally recognized standards of excellence for environmental management and business practices. The ISO14001 system categorizes activities and processes that contribute to sound environmental management. The ISO9001 system focuses on quality management in terms of fulfilling a customer's quality and regulatory requirements. The Environmental Services Department has also recently implemented the Drinking Water Quality Management Standard (DWQMS) for Water Operations as required by the Ministry of the Environment (MOE).

To achieve ISO registration, an organization must establish, maintain and continually improve upon their activities to reduce pollution, improve compliance and efficiency. This process also includes evaluation and review by a third party registrar at least annually.

Although these standards are a common practice in the private sector, York Region has been a leader in the implementation of these management systems in the municipal sector (Table 1).

Table 1

Water and Wastewater ISO9001 and ISO14001 Facilities Registered To Date

ISO Standard	Type of Facility	Number of Facilities
ISO9001	water facilities	110
ISO14001	wastewater facilities	16

Key milestones include:

1. 2000: FIRST in North America to apply the ISO 14001 to a sewage distribution system (York-Durham Sewage System).
2. 2001: FIRST municipality in Canada to register five wastewater treatment plants to ISO14001.
3. 2001: Achieved ISO 9001:2000 registration for the York Water System (distribution system for City of Toronto water).
4. 2002: Achieved ISO 9001:2000 registration for the North Water System (treatment and supply from production wells).

These accomplishments demonstrate York Region's commitment to provide residents and businesses with cost effective, environmentally sound, quality services of the highest standard.

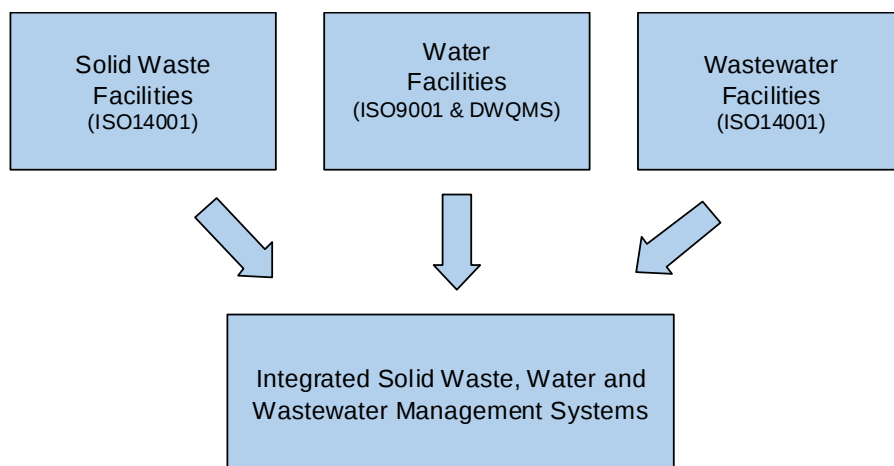
Implementing ISO14001 for Solid Waste Management facilitates integration of existing Quality and Environmental Management Systems

Currently, each standard has its own set of policy level documents and metrics that are being managed and audited separately for each program. Staff has identified various benefits to integrating existing Quality and Environmental Management Systems, including:

- Reduced costs, which include avoiding duplication of internal audits, document control, training and administration, and ease the incorporation of future management systems, program and sites
- Reduced duplication and bureaucracy by implementing one set of policies that ensures requirements are coordinated, workloads are streamlined and disparate systems are avoided
- Opportunity to develop integrated, system level policies that encompass Solid Waste Management operations and Water and Wastewater operations
- Streamlining documentation to consolidate multiple policies that are similar in nature between Water and Wastewater and Solid Waste Management

The current initiative to implement ISO14001 for Solid Waste Management requires development of various system level policies for inclusion of Solid Waste Management into the existing ISO14001 registration. This presents an ideal opportunity to concurrently update existing system policies to integrate the existing Quality and Environmental Management Systems and include the Solid Waste Management business as represented in Figure 1 below.

Figure 1 – Integration of Environmental Services Management Systems



Implementing ISO14001 for Solid Waste Management will include facilities which are either owned or operated by York Region

The following facilities are either owned or operated by the Region and are targeted for inclusion within the existing scope of ISO14001 Registration:

- Municipal Hazardous or Special Waste (MHSW) and Recycling Depot (including Electronic Recycling) in the Town of East Gwillimbury
- MHSW Depot and Electronics Recycling in the Town of Georgina
- MHSW Depot and Electronics Recycling in the Town of Markham
- MHSW Depot and Electronics Recycling in the City of Vaughan
- Asian Long-Horned Beetle Site in the City of Vaughan
- Waste Management Centre in the Town of East Gwillimbury
- Waste Transfer Station in the Town of Georgina (conversion to Community Environmental Centre scheduled for 2010)
- Community Environmental Centre (CEC), City of Vaughan (open spring 2009)

Implementation of ISO14001 will include the development of System Procedures, Standard Operating Procedures and Work Instructions. It is anticipated that implementation will proceed in three phases with registration to coincide with the existing ISO14001 external audit schedule (Table 2).

Table 2
Solid Waste Management ISO14001 Implementation Schedule

Phase	Sites	Standard Operating Procedures/Work Instructions Implemented	ISO14001 Registration
1	Asian Long-Horned Beetle Site Georgina Transfer Station	June 2009	September 2009
2	Waste Management Centre 4 MHSW Depots (East Gwillimbury, Georgina, Markham and Vaughan) Vaughan Community Environmental Centre	December 2009	February 2010
3	Community Environmental Centre (Richmond Hill)	December 2010	February 2011

Private sector facilities to be monitored by contractor's package

The Region has entered into contracts with third party waste processing facilities to process recyclables, source separated organics and residual waste. The facilities will not be included in the existing ISO14001 registration, but instead will be monitored by the use of an ISO14001 Contractors and Suppliers Performance Requirements Package, as is the current practice in Water and Wastewater Operations. The Package, which is distributed to all contractors and suppliers, provides details of the Region's ISO9001 and ISO14001 standards and requirements, including the provision of chemicals and materials, and makes them aware of their responsibilities and performance expectations. Currently, Water and Wastewater project managers are responsible for distributing the Package to all suppliers that service York Region facilities. Project managers are responsible for ensuring that contractors sign the packages and return them to the Regulatory Compliance and Policy group.

Contractors that will be included in the initial round of implementation include:

- Earl Turcott Waste Management Centre, Town of Markham
- Green Lane Landfill, London, Ontario
- Dongara Developments Inc. Energy from Waste Facility, City of Vaughan
- Universal Resource Recovery Source Separated Organics Facility, Welland, Ontario
- Orgaworld Source Separated Organics Facility, London, Ontario
- Miller Waste Systems Organic Yard Waste Composting Facility, Town of Richmond Hill

Relationship to Vision 2026

Implementation of ISO14001 for Solid Waste Management, and integration of our existing Quality and Environmental Management Systems for solid waste as well as water and wastewater supports three of the eight goals of Vision 2026 (Goal 2: Enhanced Environment, Heritage and Culture, Goal 7: Infrastructure for a Growing Region and Goal 8: Engaged Communities and a Responsive Region) by:

- Implementing an ISO14001 program for Solid Waste Management that focuses on achieving continuous improvement of the service over time
- Encouraging continued waste diversion from landfill including recycling
- Being a leader in waste reduction
- Complying with and maintaining high standards for drinking-water quality
- Providing safe and dependable water supply to systems and facilities in area municipalities
- Providing cost-effective service delivery

5. FINANCIAL IMPLICATIONS

Costs of integrated ISO14001 for Water and Wastewater as well as Solid Waste Management estimated at \$18,750

The costs of integrating ISO9001, ISO14001 and the Drinking Water Quality Management Standard, including the cost of expanding the ISO14001 program to solid waste management systems and facilities, are summarized below in Table 3.

Table 3
Costs for Solid Waste Management ISO Implementation and
Quality/Environmental Management System Integration

Task	Cost
Consultant fees	\$15,000
ISO Registration – additional annual maintenance and licensing fees	\$2,250
ISO14001 EMS Audit annual external audit for certification	\$1,500
Total Cost	\$18,750

Costs outlined above have been included in the 2009 Environmental Services Operating Budget.

Contract Cost Implications of Implementing the ISO14001 Environmental Management System

The following (Table 4) summarizes whether the current solid waste contracts acknowledge the potential to implement an ISO14001 Environmental Management System:

Table 4
Contract Acknowledgements of ISO14001 Implementation in
Solid Waste Management Contracts

Facility	ISO14001 Acknowledgement
Asian Long-Horned Beetle Site	yes
Electronics Recycling Depots	yes
Georgina Transfer Station	yes
Four Municipal Hazardous or Special Waste (MHSW) Depots	no
Vaughan Community Environmental Centre	no
Waste Management Centre	no

The potential to implement ISO14001 has been incorporated within some solid waste contracts including the Asian Long-Horned Beetle Site, the Georgina Transfer Station and the Electronics Recycling Depots. Contracts for these sites refer to the implementation of Environmental Management System programs at the facility with specific reference to ISO14001:2004. No additional costs are required to implement the program for these contracts.

Contracts for the four MHSW depots, the Waste Management Centre and Vaughan Community Environmental Centre do not contain specific reference to the implementation of Environmental Management System programs. For these facilities, contract change orders would be required. It is anticipated that contractors would request compensation for this additional task. Alternatively, implementation of Environmental Management Systems could be incorporated into each of these contracts as they expire and are either renewed or retendered. In this way, the cost of implementing the Environmental Management System through these operating contracts would be addressed through negotiations or competitive bid as applicable.

There are numerous benefits to implementing an ISO14001:2004 Environmental Management System, including:

- Acknowledgement and prioritization of risks through identification and categorization of environmental aspects and impacts by degree of severity and likelihood of impact.
- Undertaking due diligence from both legal and environmental perspectives to ensure that facilities are operated in accordance with applicable laws.
- Establishing clear policies and procedures that are implemented and maintained that guide the Contractor's and Region's activities with respect to its facilities.
- Achievement of continual improvement of the system over time by applying feedback received to make system enhancements to correct and prevent impacts on facilities.

The primary costs of implementing ISO14001:2004 are documentation and training by Regional staff. The current staffing complement is sufficient to complete the 2009 implementation phase. Future staffing requirements for 2010 and beyond will be coordinated through the budget approval process. Some additional costs for contractor implementation of the Environmental Management System are also anticipated, as these are primarily training and administrative costs. These additional contractor costs are already addressed in the Asian Long-Horned Beetle and Georgina Transfer Station contracts for the 2009 ISO14001 roll-out, and would be incorporated into future renewal and re-tendering upon expiration of contracts for other facilities.

6. LOCAL MUNICIPAL IMPACT

Once the Region's Environmental Management System is implemented across solid waste as well as water and wastewater, it may be reviewed by local municipalities

considering implementation of ISO14001 for their waste collection and waste related activities. Regional staff will liaise with local municipal staff to assist as required.

7. CONCLUSION

The Region has been working to establish an ISO14001 Environmental Management System for the Solid Waste Management Branch. Recent initiatives have presented an ideal opportunity to integrate the existing Quality and Environmental Management Systems concurrently with the implementation of ISO14001 for Solid Waste Management. The majority of solid waste management facilities will be prepared for ISO14001 registration by the fall of 2009, with future facilities being registered following commencement of operations.

For more information on this report, please contact Laura McDowell, Director of Environmental Promotion and Protection at Ext. 5077.

The Senior Management Group has reviewed this report.

(The attachment referred to in this clause is attached to this report.)