

Chapter 8 – Environmental Management Program



8. Environmental Management Program

A general requirement of projects certified by the BCEAO, environmental management programs describe the environmental practices and procedures that will be systematically applied by a Project Proponents during the various stages of a project (i.e. planning, construction, operations and closure/reclamation) in order to manage potential effects. Given that this Project is an extension of an existing operation, and given that the existing operation has an ISO 14001 Environmental Management System (EMS) in place, this chapter describes the major components of Wastech's EMS, which would be applied to the landfill extension project.

8.1 Environmental Management System

The EMS is a comprehensive program consisting that ranges from environmental policy (i.e. strategic level) to operational controls. Environmental management programs (EMPs) form the basis of the continuous improvement concepts embraced in the ISO program. Activities that are deemed to be a higher risk to the environment are identified in the environmental aspect registry and are systematically addressed. These plans are reviewed annually and modified, as required, to address changing conditions or operational improvements. The EMS is also audited by a third party on an annual basis.

8.1.1 Overview

In January 2007, Wastech Services achieved certification as being in conformance with the requirements of ISO 14001:2004. This is a standard for EMS programs developed by the International Organization for Standardization in 1996, updated in 2004, and has been adopted without modification in Canada by the Standards Council of Canada (SCC) as CAN/CSA-ISO 14001:2004.

A formal EMS helps organizations:

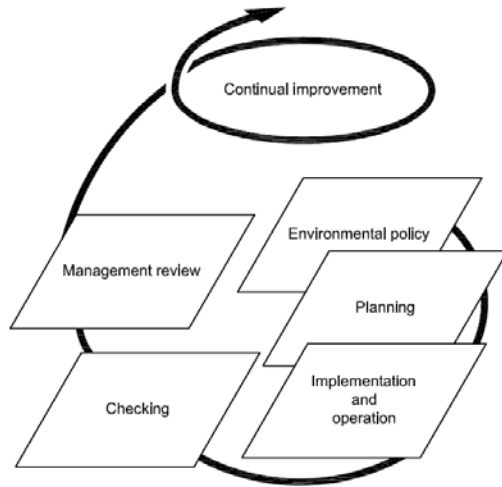
- Demonstrate due diligence
- Assures stakeholders of commitment
- Reduces incidents that could cause liability
- Helps to achieve cost savings and cost avoidance

In addition to these benefits, it can be used to ensure consistency across multi-site organizations and to provide focus and discipline.

The ISO standard grew out of increasing environmental awareness throughout the latter half of the last century. In the 1980s, the United Nations established the Brundtland Commission. In 1987, the commission issued a report entitled "Our Common Future" calling for sustainable development, defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own need."

An EMS is designed as a framework within which an organization can understand its impact on the environment, set goals to reduce those impacts, measure success, and take actions to continually improve its processes (Figure 8-1).

FIGURE 8-1
Environmental Management System Framework



8.1.2 Environmental Policy

The first step is to establish an environmental policy. Wastech's environmental policy commits the organization to:

- Manage our activities, products and service to minimize any adverse effects on the environment
- Develop in a sustainable fashion
- Prevent pollution
- Comply with all legal and regulatory requirements
- Seek continual improvement through ongoing reviews of our processes
- Ensure that all employees and personnel working on our behalf contribute to the protection of the environment

This policy is publicly available and visibly posted in all our facilities.

8.1.3 Environmental Aspects

An EMS includes an Environmental Aspects Registry. This registry is a listing of impacts on the environment as a result of the organization's business activities. Each process utilized in the transfer stations, logistics, administration, and landfill operations is mapped out, with environmental impacts identified. These impacts include, among others:

- Consumption of diesel fuel in heavy equipment
- Particulate emissions from transportation activities

- Consumption of paper in the office
- Disposal of organic waste in staff lunchrooms
- Landfill gas generation

Each identified aspect is scored on four criteria: likelihood, consequences, effectiveness of existing controls, and application of legal requirements. Those aspects with the highest scores are rated as “significant.”

Significant aspects are the focus of objectives and programs to reduce the resulting scores, either through implementation of improved controls to reduce the likelihood, or process changes to reduce the potential impact on the environment.

As an example, Wastech uses biodegradable cleaning products to wash the transfer trailer fleet. The washwater passes through a debris trap, oil water separator, and bioswale prior to being discharged with as stormwater at the Surrey Transfer Station.

8.1.4 Requirements for Registration

In Canada, registrars are accredited by the Standards Council of Canada to audit and confer registration to firms which meet the requirements of the standard. ISO 14001 includes 61 requirements that an organization must satisfy to achieve and maintain registration. Each of these requirements is objectively auditable.

In addition to the requirement for internal audits, to achieve certification, the EMS is audited by an independent registrar accredited by the SCC. Wastech’s auditor is QMI-SAI Global (QMI-SAI), based in Toronto, Ontario. Under QMI-SAI’s requirements for certification, a new program is audited every 12 months for the first 3 years, and then undergoes a re-registration process. External auditing continues every year after that.

8.1.4.1 Legal and Other Requirements

Wastech’s operations are subject to a number of legal and regulatory requirements. These include federal and provincial statutes as well as regional and municipal by-laws.

To ensure currency with changing legal requirements Wastech utilizes specialist legal firms to monitor and document changes in the regulatory environment. The legal requirements are incorporated into Wastech’s work procedures.

8.1.5 Objectives and Targets

Once the aspects are identified and their significance rated, objectives and targets are set. These objectives and targets must be measurable, where practicable, and consistent with the environmental policy. Some of Wastech’s current objectives are to:

- Reduce consumption of diesel fuel
- Improve the capture and destruction of landfill gas
- Reduce the consumption of electricity
- Ensure the proper disposal of controlled materials
- Increase the amount of waste diverted from disposal
- Reduce the amount of oil and fuel spilled

In order to achieve the objectives and targets, programs are required. These programs might consist of investigating new technologies, additional staff training, and changes in purchasing policies and upgraded facilities, among others. Programs must include the designation of responsibility and the means and timeframe to achieve the targets established.

Wastech uses well defined work procedures to control environmental impact. These are continuously reviewed and improved through their linkage with the established objectives and through ongoing training of staff.

Through the auditing process, whether internal or external, the aspects registry is reviewed, objectives and targets are updated, work processes are improved, new information is communicated to staff, and records of requirements are kept.

8.1.6 Environmental Training and Awareness

Wastech has implemented a series of procedures to ensure all employees receive the necessary training. Each Wastech employee should understand and be aware of the environmental policy and objectives. Through evaluations and reports, Wastech is able to measure the success of the training programs, minimize incidents, and alter any incorrect behavior of employees.

New objectives, procedures, and regulations may be conveyed through formal and informal training. Based on “on the job” observations, quizzes on training material, and work performance, Wastech is able to determine if the training programs are effective. Environmental training is also provided to contractors so that they are aware of Wastech’s policies as related to the work they have been contracted to carry out.

8.1.7 External Environmental Communications

The goal of Wastech’s external communication program is to share important information with the public, government bodies, and stakeholders. The environmental policy and certification is posted on Wastech’s Website (www.wastech.ca) along with information on new initiatives. Contact information for public inquiries is also posted on Wastech’s Website.

8.1.8 Internal Environmental Communications

Wastech utilizes a number of methods to communicate internally. These methods include:

- Posting information in the form of a memo, newsletter or email
- Conducting environmental training
- Crew talks
- Incident investigations
- Distributing posters, brochures, and presentations

8.1.9 Environmental Document Control

Wastech’s document control system consists of electronic records, each bearing a unique document number and revision control. The master files are stored on-site, with an off-site

backup for protection. New and updated documents are reviewed and approved prior to becoming records within the EMS.

8.1.10 Evaluation on Environmental Compliance

To maintain certification, Wastech is required to manage, schedule and conduct environmental compliance audits. The compliance audit results indicate areas to amend operational controls and EMS procedures. In the event that a non-conformance arises, new corrective and preventive actions will be taken to rectify the issue. Each of the actions outlined will be followed with a date for completion.

8.1.11 Incidents, Corrective and Preventative Action

In the event of an incident or near-miss, every employee is responsible to implement corrective and preventative action. All incidents are documented, including interviews with those involved, a root cause analysis, and suggested corrective and preventative actions. Management is involved in this process in the event that work procedures require modification or other action is required.

8.1.12 Environmental Records Management

Environmental records are kept in both hardcopy and electronic form. Each record is assigned a designated owner to maintain. The records include, among others:

- Training records
- Audit results
- Complaints
- Incident reports
- Management reviews and results
- Significant aspects
- Calibration, maintenance, and inspection of equipment records

8.1.13 Compliance Audits

The EMS is subject to auditing by parties both internal and external to Wastech. External audits are carried out each year and include a plan, schedule, and audit team.

The audit criteria must follow ISO 14001: 2004. Based on the results of the audit findings, Wastech is able to identify the areas that are performing well and areas that require improvement.

8.1.14 Emergency Preparedness and Response

Wastech has developed procedures and plans to address a variety of emergency situations. Emergency situations include fire, earthquake, oil spill, chemical release, unknown cloud, and missing persons. Training on these procedures and plans form part of the regular employee training plan. Employees are tested through routine mock emergency events conducted throughout the year.

8.1.15 Management Review

Management reviews are held at least once each year. The review is conducted to discuss the environmental training records, new legal regulations, and revise and update objectives. At the end of the review, recommendations and identification of areas of improvement are generated. The recommendations are followed by specific action items and are then assigned to individuals to carry out.

8.1.16 Operational Controls

Operational controls are required components of an EMS. These controls are essential to maintain the policy, objectives, and work procedures at Wastech facilities. These operational controls include:

- Operating Certificate and by-laws which define acceptable wastes
- Signage to communicate site rules with customers and staff
- Load inspection to ensure that restricted and banned materials are not sent for disposal
- Weigh scales to monitor inventory levels within each facility
- Landscaping, which serves as a buffer between site activities and public spaces
- Pest, noise, and odour control

The operating controls are based on the landfill operation certificate, best management practices, and legal requirements.

8.1.17 Landfill Operations

With respect to the landfill operations, Wastech's EMS provides staff with the tools necessary to make decisions that protect the environment. The work procedures in use are documented, and the response to emergency situations is defined and practiced. Regular training is provided to employees to ensure that any changes to procedures are communicated. Objectives are established to manage and control the identified environmental aspects, and performance updates are communicated to staff at regular intervals.

8.1.18 Summary

Management of Wastech's EMS is a vital program within the organization and all the dedicated staff. The effectiveness of the program provides Wastech with a backdrop of environmental protection and awareness for all employees and worksites. The implemented program also includes quantitative measures of the effectiveness of the program to continue successful and safe operations.

Each procedure, policy, and objective is critically reviewed on a regular basis. This will be applied to amend existing procedures, policies and objectives in order to meet new challenges in the extension of the landfill. The steps to be taken to ensure compliance include revising current procedures, policies, and objectives to adding new regulation(s) into EMS's legal and other requirements section. If necessary, Wastech's environmental scope will be expanded to cover the needs of the increased facets of operations.