



Best Practices for Achieving Environmentally Sound Management (ESM)

At Facilities that
Refurbish and Recycle
Used and End-of-Life Electronic
Products in North America



cec.org

This document was prepared by the Secretariat of the Commission for Environmental Cooperation (CEC). The views contained herein are not intended to reflect the views of the Governments of Canada, Mexico or the United States. This material has been written and compiled for informational purposes within the project “Sound Management of Electronic Wastes in North America”, based on internationally recognized criteria and recommended practices for environmentally sound management in the recycling and refurbishing of used and end-of-life electronic products. It is not an official certification program supported by the Governments of Canada, Mexico or the United States, or by the CEC.

Reproduction of this document in whole or in part in any form for educational or non-profit purposes may be made without special permission of the CEC Secretariat, provided acknowledgement of the source is made. The CEC would appreciate receiving a copy of any publication or material that uses this document as a source.

Except where otherwise noted, this work is registered with Creative Commons and protected under the Attribution-Noncommercial–No Derivative Works copyright license.



Icons and images are part of the Microsoft Word© suite of images.

Please cite as:

CEC. 2013. *Best Practices for Achieving Environmentally Sound Management (ESM) for Managers At Facilities that Refurbish and Recycle Used and End-of-Life Electronic Products in North America*. Montreal, Canada: Commission for Environmental Cooperation.

Disponible en français – Disponible en español

Acknowledgements

The Commission for Environmental Cooperation (CEC) is an intergovernmental organization developed to support cooperation among the North American Free Trade Agreement (NAFTA) partners to address environmental issues of continental concern. To support its project theme Sound Management of Electronic Wastes in North America, the CEC has developed the following training materials appropriate for the needs of small and medium-sized enterprises involved in refurbishing or recycling electronic waste in North America.

The CEC would like to thank Laurie Giroux, from the Giroux Environmental Consulting firm, Carolyn Webb, Dr. Anne Goodman, and GLA Environmental Inc., for their contributions as lead consultants to this work. We would like to recognize the valuable and expert contributions of Michael Vanderpol from Environment Canada; Rick Picardi and Karen Pollard from the US EPA; and, Arturo Gavilán, Frinée Cano and Víctor Alcántara from the National Institute of Ecology and Climate Change (Instituto Nacional de Ecología y Cambio Climático—INECC) to the completion of this work. We also wish to thank the following persons, who were interviewed and contributed with time and their expertise to complete this work: From Canada: Shauna L. McCaffrey from Renewed Computer Technology, Canada; and Dennis Maslo, Computation Ltd. From the United States: Kelley Keogh, Greeneye Partners LLC; Pat Furr, Computers for Classrooms. From Mexico: Álvaro Núñez, Recicla Electrónicos México (Remsa); Jan René Aguirre Palme, Proambi, SA de CV; and Albino Fernand Bessa, Technologies Displays Mexicana, SA de CV.

Marco Heredia, Program Manager at the CEC Secretariat was responsible for management and oversight of this project. Gabriela Sánchez assisted in the development of this material.

For more information:

Commission for Environmental Cooperation

393, rue St-Jacques Ouest

Bureau 200

Montréal (Québec)

H2Y 1N9

Canada

t 514.350.4300 f 514.350.4372

info@cec.org / www.cec.org





Commission for Environmental Cooperation

**Best Practices for Achieving Environmentally
Sound Management at Facilities that Refurbish
and Recycle Used and End-of-life Electronic
Products in North America**

Module 5:
Legal Compliance for Managers

This page intentionally left blank.

Table of Contents

| | | |
|----------|---|----------|
| 5 | Module 5: Legal Compliance | 1 |
| 5.1 | Learning Objectives..... | 1 |
| 5.2 | Pre-questionnaire | 2 |
| 5.3 | Check-in on Topics Previously Covered in Modules 1–4 | 3 |
| | Module 1 (Introduction to Environmentally Sound Management)..... | 3 |
| | Module 2 (Top Management Commitment to ESM) <i>For Managers Only</i> | 3 |
| | Module 3 (Risk Assessment) | 4 |
| | Module 4 (Risk Prevention and Minimization) | 4 |
| 5.4 | Introduction and Overview of this Module | 5 |
| 5.5 | What Is Legal Compliance and Why Is It Important? | 6 |
| | 5.5.1 <i>Why Is Legal Compliance Important for My Facility? What Are the Benefits?</i> .. | 7 |
| | 5.5.2 <i>What Does It Mean to Offer Assurance?</i> | 8 |
| | 5.5.3 <i>What Information Is Presented in this Module?</i> | 8 |
| 5.6 | Best Practices for Meeting Your Legal Requirements | 9 |
| 5.7 | Occupational Health and Safety | 14 |
| | 5.7.1 <i>Introduction</i> | 14 |
| | 5.7.2 <i>Occupational Health and Safety – Canada</i> | 15 |
| | 5.7.3 <i>Occupational Health and Safety – United States</i> | 17 |
| | 5.7.4 <i>Occupational Health and Safety – Mexico</i> | 19 |
| 5.8 | Environmental Approvals and Reporting Legal Overview | 23 |
| | 5.8.1 <i>Introduction – Environmental Approvals</i> | 23 |
| | 5.8.2 <i>Introduction – Pollutant Release and Transfer Registers (PRTs)</i> | 23 |
| | 5.8.3 <i>Environmental Approvals and Reporting – Canada</i> | 24 |
| | 5.8.4 <i>Environmental Approvals and Reporting – United States</i> | 26 |
| | 5.8.5 <i>Environmental Approvals and Reporting – Mexico</i> | 30 |
| 5.9 | Transportation and Transboundary Movement of Hazardous Waste | 34 |
| | 5.9.1 <i>Introduction</i> | 34 |
| | 5.9.2 <i>Transboundary Movement of Hazardous Waste – Canada</i> | 37 |
| | 5.9.3 <i>Transboundary Hazardous Waste – United States</i> | 40 |
| | 5.9.4 <i>Transboundary Hazardous Waste – Mexico</i> | 42 |
| 5.10 | Summary—Key Take-away Messages | 46 |
| 5.11 | Post-questionnaire..... | 47 |
| 5.12 | Additional Resources | 48 |

This page intentionally left blank.

5.2 Pre-questionnaire



1. Are you involved in helping your facility meet its legal compliance? If so, what is your role?

2. What questions do you have relating to your facility's legal compliance that you would like this module to answer?

3. Are there questions relating to legal compliance that you would like to ask of other learners to hear their experiences?

5.3 Check-in on Topics Previously Covered in Modules 1–4

Module 1 (Introduction to ESM)

In Module 1 you learned about:

- the importance and benefits of environmentally sound management (ESM), including elements deemed necessary to achieve ESM at the facility-level;
- potential environmental, health and safety issues associated with refurbishing and recycling electronic products;
- worker health and environmental benefits of implementing ESM at your facility;
- economic benefits of implementing ESM at your facility;
- the benefits of participating in ESM validation and certification programs and how this can increase your client base, your inventory volumes, and potential profits; and
- the waste management hierarchy and how it applies to activities undertaken at electronics refurbishing and recycling facilities.

Module 2 (Top Management Commitment to ESM) *For Managers Only*

In Module 2 you learned about:

- specific best practices for how top management commitment to a systematic approach could be implemented, improved, and/or demonstrated at your facility;
- how to assess whether your facility follows best practices to demonstrate top management commitment to the environment, health and safety and how improvement can be made;
- important elements of an environment, health and safety policy;
- important elements of an environmental, health and safety management system; and
- important procedures to document at your facility, including those relating to communications and training.

Module 3 (Risk Assessment)

In Module 3 you learned about:

- specific best practices to implement, improve, and demonstrate risk assessment at your facility;
- how to assess whether your facility follows best practices for risk assessment and how improvement can be made;
- hazards and risks to worker health and safety and the environment;
- how to apply the risk assessment process to your facility's operations; and
- how to determine if existing control measures to address identified risks at your facility are adequate or if more should be done.

Module 4 (Risk Prevention and Minimization)

In Module 4 you learned about:

- the benefits of risk prevention and minimization in used, discarded and end-of-life electronics recycling and refurbishment operations;
- the various types of controls that are recommended as best practices to eliminate, prevent and minimize risks, including engineering controls, administrative controls, and personal protective equipment controls; and
- the tools, resources and knowledge to allow you—as a manager—to give assurance that your facility operates in a manner that supports ESM.

5.4 Introduction and Overview of this Module

You are a “green” business, considered by some to be “greening the economy” by employing workers to refurbish or recycle used or end-of-life electronics. These are valuable resources that would otherwise have ended up in a landfill. Do you still have legal requirements?

The simple answer is yes. There are legal requirements that apply to both refurbishers and recyclers of electronic products to ensure human health and safety, and environmental protection. Each facility has different legal requirements, depending on the country, province, territory, state or municipality where it is located, and what type of activities is undertaken.

This module will provide you with:

- an overview of how your facility can go about ensuring that it is compliant with national, state/provincial/territorial, and local legal requirements in the jurisdiction in which it operates, and those jurisdictions it exports or transports materials to; and
- important considerations regarding your legal compliance with respect to occupational health and safety, environmental approvals, and transportation and transboundary movement of hazardous waste.

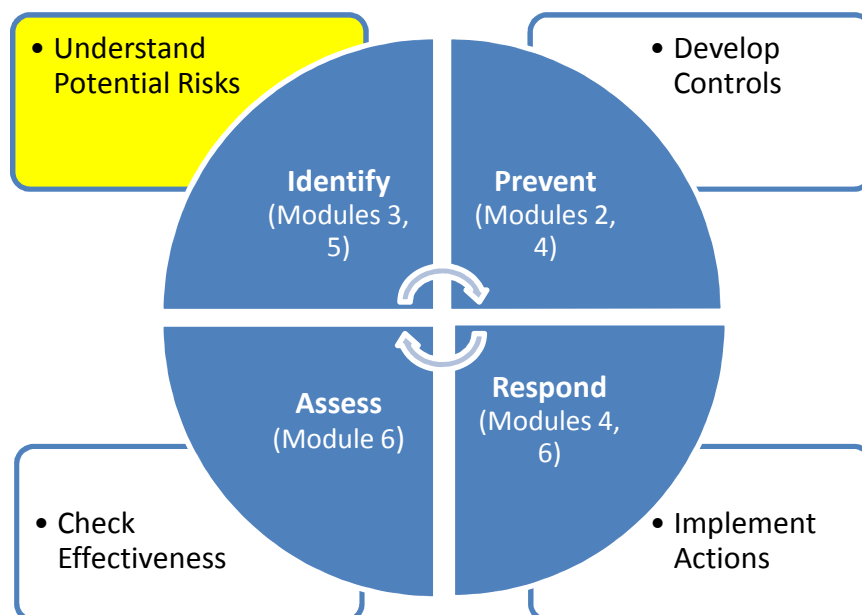
A Jurisdiction:

The geographic area over which authority of a regulatory body extends.

Typically, facility operations are captured by the legal requirements of multiple jurisdictions (e.g., municipal, provincial/state, and national).

Exhibit 1 shows how the key responsibilities of operating a facility fit within the framework of environmentally sound management, and where these responsibilities will be covered in the training material. Module 5 is in the quadrant on understanding potential risks at your facility.

Exhibit 1: Key Responsibilities within the Framework of Environmentally Sound Management



5.5 What Is Legal Compliance and Why Is It Important?

REMINDER: ESM Criterion #4

Legal Requirements:

Identify, access and strive to fulfill applicable legal requirements, including, for example: legislation, statutes and regulations; decrees and directives; permits, licenses and certificates of approval, or other forms of authorization; orders issued by regulatory agencies; and/or judgments of courts or administrative tribunals. Facilities should also take into consideration customary or indigenous law and treaties, conventions and protocols.

Refurbishing facilities and recycling facilities need to meet all of the local, state/provincial/territorial, and national laws and regulations that apply to them. Facilities must make sure that they have the licenses and permits needed to operate and that their operations are safe for workers and surrounding communities. Businesses that participate in international trade must also make sure that they comply with all applicable import, transport, and export laws in each of the exporting, transit, and receiving countries. What this means is that your facility needs to identify and comply with legal requirements for all of the regions that it operates in and the countries it exports to and ships through.

To ensure ESM, your facility will want to make sure that all downstream processors that further process material (for example, refurbishing and recycling partners, smelters, waste treatment and disposal facilities, etc.) from your facility also comply with applicable legal requirements, which include permits, licenses or other authorizations and special requirements that may exist for import and export of used products and processed materials.

Please note that this module is intended to give you an overview of the types of legal requirements that are typical for refurbishing and recycling facilities that process electronic products in North America.

The module does not provide specific direction to meet your particular legal requirements. You will need to explore which specific requirements in your jurisdiction apply to your facility.

5.5.1 Why Is Legal Compliance Important for My Facility? What Are the Benefits?

Answer:

Legal requirements have been established for all types of businesses, to safeguard human health and the environment. Being compliant with legal requirements will guide you in providing an effective environment, health and safety (EHS) system—certified or not.

Following the law will provide your facility with many other benefits:

- ✓ Following health and safety requirements will result in a productive workplace. With healthy workers not getting ill or injured you can boost performance and avoid downtime from worker injuries or illness.
- ✓ You will avoid penalties for non-compliance with either occupational health and safety, or environmental protection, which can be significant. These penalties can range from *monetary fines* to *criminal prosecution* to *facility closure* (see boxes throughout the module for real-life cases of non-compliance).
- ✓ Your facility will establish and maintain a reputation beyond reproach as other companies and clients have little reason to be concerned about unlawful or illicit activity.
- ✓ Your facility is more likely to be considered an authorized service provider under extended producer responsibility and product stewardship programs for electronic products and be eligible to receive processing subsidies under these programs (i.e., if they exist and where other requirements for eligibility are met). A number of States and Provinces mandate extended producer responsibility and product stewardship programs for used and end-of-life electronic products, whereby fees are collected from manufacturers, retailers and/or consumers and paid to registered refurbishers and recyclers to process products and/or materials. These programs generally require that you show regular compliance with the law, among other requirements.
- ✓ Your facility will have the tools, resources and knowledge to assure clients, investors, insurance companies, governments and the public that it operates in compliance with the law.

5.5.2 What Does It Mean to Offer Assurance?

Answer:

Definition of Assurance: A positive declaration intended to give confidence; a promise or pledge; a guarantee.

In Business: Businesses often use the term “guarantee” when a company attests to the quality of a product or service, as a way for them to provide assurance to stakeholders.

In the Refurbishing and Recycling Industry: A company can offer assurance that a service will be performed in a specified manner, such as assurance to undertake refurbishment and recycling services in support of ESM, and in full legal compliance to environment, health and safety (EHS) requirements.

Operating in full legal compliance will allow your company to be in a better position to offer assurance that you have taken all reasonable care to prevent, minimize or otherwise address risks to worker health and safety, the environment and the local community.

5.5.3 What Information Is Presented in this Module?

This module presents the following information, in this order:

- two best practices for implementing a systematic process to ensure your facility meets legal compliance obligations,
- a jurisdictional overview of occupational health and safety legal compliance information for Canada, the United States, and Mexico,
- a jurisdictional overview of environmental protection legal compliance information for Canada, the United States, and Mexico, and
- a jurisdictional overview of legal compliance information related to transboundary movement of used, end-of-life or discarded electronic products for Canada, the United States, and Mexico.

5.6 Best Practices for Meeting Your Legal Requirements

Best Practice: To understand and comply with applicable legal requirements, your facility should implement *a systematic approach*.

A systematic approach¹ to ESM means that a facility should do the following.



In addition, managers of the facility should communicate from time to time and maintain a working relationship with relevant regulatory authorities in your jurisdiction. It is also your responsibility to ensure that downstream processors and material handlers are compliant with applicable legal requirements. Your facility may want to use a number of sources to identify its legal requirements, including: national, state/provincial/territorial, and local regulatory agencies; government publications and news releases; legal advisors; legal journals; commercial databases; industry member associations; newsletters; internet subscriptions; and continuing education courses. You may also want to pay for a compliance audit/gap analysis from an expert in national, state/provincial/territorial and local legal requirements.

¹ United Nations Environment Programme (UNEP). Basel Convention. 2011. *Guideline on Environmentally Sound Material Recovery/Recycling of End-of-life Computing Equipment*. Partnership for Action on Computing Equipment (PACE) Project 2.1.

Best Practices for Meeting Legal Compliance

Best Practice: Employers should be aware of how they can demonstrate *due diligence* in taking all reasonable care to comply with applicable regulations.

Demonstrating Due Diligence

Due Diligence: Demonstrating all reasonable efforts have been taken to act with a certain standard of care.

Example: Occupational health and safety (OHS) legal requirements

OHS legal requirements oblige employers to take all reasonable precautions to prevent workplace injuries or accidents. If an accident does occur, an employer can use due diligence as a legal defense if it can demonstrate that a reasonable amount of judgment, care, action, and effort to prevent the occurrence took place.

An employer can establish a due diligence program by taking the following actions and maintaining documentation of them BEFORE an accident occurs:

- Develop written OHS policies, practices and procedures. These should document that the employer completed safety audits, performed risk assessments, acted to minimize any identified risks, and gave workers the information, training and equipment needed to work safely.
- Provide workers with appropriate training and education so that they can work according to the policies, practices and procedures.
- Provide adequate training and/or certification (if required, for operations of some equipment) to supervisors to ensure that they are competent, as defined by the legal requirements.
- Monitor the workplace, ensure that workers are following the established policies, practices and procedures, and document any discipline actions taken when these are breached.
- Develop an accident investigation and reporting system, encourage employees to report “near misses,” investigate these near misses, and integrate information learned into revised policies, practices and procedures.

Note that documentation of each of these actions is critical to demonstrating the development of the employer’s OHS program and to demonstrating due diligence in the event an accident does occur.

The law also requires *workers* to show due diligence—to take reasonable care to ensure their own safety and that of their co-workers. This includes following the policies, practices and procedures of their employer, working in a safe manner, and complying with legal requirements.²

This example of demonstrating due diligence is focused on occupational health and safety; however, demonstrating due diligence is also important for other legal requirements, such as environmental protection, and storage and transport of hazardous waste and dangerous goods.

² Canadian Centre for Occupational Health and Safety, <<http://www.ccohs.ca/oshanswers/legisl/diligence.html>>.

Notebook

Facility Check-in:

- Goal:* My facility follows a systematic approach to meeting its legal requirements.



Note the current situation: _____

Note where improvement could be made: _____

What challenges exist and how might they be overcome? _____

Note what steps you can take today/next week/next month to begin the change process:

Occupational Health and Safety Legal Overview

5.7 Occupational Health and Safety

5.7.1 Introduction

Module 3 discussed the importance of risk assessment for ESM and environment, health and safety. Ensuring a safe workplace is also a critical element of a facility's legal requirements. Occupational health and safety (OHS) is a cross-disciplinary area concerned with protecting the safety, health and welfare of people engaged in work or employment.



Occupational health and safety can be important for moral, legal, and financial reasons. Moral obligations involve the protection of employees' lives and health. Legal reasons for OHS practices relate to the preventive, punitive and compensatory effects of laws that protect workers' safety and health. Following OHS requirements can also be good for your corporate bottom line, since it can reduce employee injury- and illness-related costs, including medical care, sick leave and disability benefit costs.

Since 1950, the International Labour Organization (ILO) and the World Health Organization (WHO) have shared a common definition of occupational health. It includes three complimentary objectives:

1. maintaining and promoting workers' health and working capacity,
2. improving the working environment so that it is conducive to health and safety, and
3. developing organizations and working cultures that support health and safety at work.

Health and safety: good for your business

“A safe environment is a productive workplace. Health and safety is not simply a legal obligation: It is a business opportunity. You can boost your bottom line by improving health and safety performance, which reduces the costs associated with avoidable losses and lost time due to injury, and leads to high productivity.”

Health and Safety Ontario website—Legislative Compliance page.

Occupational (workplace) health and safety is regulated differently across and within countries. The information that follows provides a general outline of some of the systems used and requirements and rights provided by Canadian, American, and Mexican occupational health and safety law.

Legal Compliance Overview – Occupational Health and Safety – Canada

5.7.2 Occupational Health and Safety—Canada

In Canada, various aspects of occupational health and safety are regulated at the provincial, territorial and national levels. Specifically, provinces and territories regulate worker protection while the Canada Labour Code, and the Workplace Hazardous Materials Information System (WHMIS) are administered at the national level.

Exhibit 2: Provincial and Territorial Legal Requirements

Provincial and territorial occupational health and safety requirements in Canada are similar to each other; however, they include slightly different details regarding how the legal requirements are enforced. Provincial or territorial health and safety regulations typically include the following:⁴

Employers' responsibilities to:

- take every reasonable precaution to make sure that the workplace is safe,
- appoint a competent supervisor who sets performance standards and makes sure that safe working conditions are observed by workers,
- provide personal protective equipment and make sure that workers are aware of how to use the equipment safely and properly,
- train employees about any potential hazards, how to safely use, handle, store and dispose of hazardous substances, and what to do in an emergency,
- establish and maintain a joint health and safety committee or have workers select a health and safety representative, and
- immediately report all critical injuries to the government department responsible for occupational health and safety.

Supervisors' responsibilities to:

- ensure that workers use the protective equipment devices prescribed by the employer,
- make workers aware of any potential and actual hazards, and
- take every reasonable precaution to protect workers.

Workers' responsibilities to:

- use personal protective equipment in a way that has been directed by the employer,
- report any workplace hazards and dangers that they know about to their employer, and
- work in the manner required by the employer, including using the prescribed safety equipment.

Workers' rights to:

- refuse unsafe work,
- participate in workplace health and safety activities, and
- know or be informed about actual and potential workplace dangers

For more information on health & safety committees, see Module 4

Provinces and territories also tend to require the establishment of a joint health and safety committee or the selection of a health and safety representative to ensure that workers and employers work together for a safer workplace, with requirements or exemptions depending on the number of employees, industry, or other factors.

⁴ Canadian Centre for Occupational Health and Safety, <<http://www.ccohs.ca/oshanswers/legisl/responsi.html>>.

Legal Compliance Overview – Occupational Health and Safety – Canada

Workplace Hazardous Materials Information System (WHMIS)

WHMIS is Canada’s national standard for hazard communication. WHMIS is designed to make sure that employers have the information they need to properly inform employees about hazardous materials in the workplace (worker’s “right to know”).

Exhibit 3: Three Key Elements of WHMIS

1) Cautionary labeling of "controlled products"

- Employers need to make sure that controlled products that are in the supplier-provided container are labelled with WHMIS supplier labels.
- Employers must provide labels, tags or markings to warn employees about workplace processes and to identify how to safely handle, store and use the controlled product.
- The labels must refer to the availability of material safety data sheets (MSDS)s.

2) Material safety data sheets (MSDSs)

- An employer must make sure that all WHMIS-controlled products that are used in the workplace have a current MSDS in both English and French.
- In Canada, an MSDS expires when it is three years old. If a product continues to be used after the expiry of the MSDS, an employer should contact the supplier for an up-to-date MSDS.
- The MSDS must be made accessible at all times to workers who are exposed to the controlled product, as well as to the health and safety committee / representative.

3) Worker education and training

- Employers must provide education and training to workers who may be exposed to hazardous materials to help them become more aware of and able to apply information about the hazardous substances.
- This includes training about MSDSs, procedures for how to safely handle, use, store and dispose of a controlled product, and how to respond in an emergency relating to the controlled product.

Enforcement

Inspectors make sure that provincial and territorial legal requirements are enforced. In serious cases of offence, charges may be laid under the Canada Criminal Code, which includes a requirement for employers to protect workers and public safety.⁵

Material Safety Data Sheet

A material safety data sheet (MSDS) is a document that provides information about a product’s potential hazards (fire, reactivity, health and environment) and safe use, storage, handling, and emergency procedures for the product. An MSDS is prepared by a product’s supplier or manufacturer and gives management and workers the information they need to safely handle, store and use the product.

A facility that uses a hazardous product in the workplace must ensure that a current MSDS has been obtained and provided to their employees for review.

MSDSs are required under Canadian, American and Mexican law. There are slight differences in what is required by each country.

⁵ Canadian Centre for Occupational Health and Safety, <<http://www.ccohs.ca/oshanswers/legisl/responsi.html>>.

Legal Compliance Overview – Occupational Health and Safety – United States

5.7.3 Occupational Health and Safety—United States

In the United States, occupational health and safety is regulated at the national level by the US Department of Labor. The Occupational Safety and Health Administration (OSHA) is the body that administers the legal requirements and is the first place a facility should look to begin to identify its legal requirements with regard to occupational health and safety. OSHA administers a series of standards. These are rules that employers must follow to ensure that their workplaces are safe and employees are protected from hazards.

Exhibit 4: Rights and Responsibilities under OSHA

Under OSHA standards, employers must:⁶

- provide a safe workplace and follow all applicable OSHA health and safety standards,
- monitor workplace hazards and correct any health and safety problems,
- aim to eliminate or minimize risks through changes in working conditions before relying on the use of personal protective equipment by workers (e.g., using ventilation systems or switching to less harmful chemicals),
- limit worker exposure to hazardous chemicals,
- use training, labels, alarms, color-coded systems, chemical information sheets and other methods to make employees aware of hazards,
- keep accurate records of workplace illnesses and injuries,
- perform tests such as air sampling, and
- report serious workplace incidents to OSHA.

OSHA gives workers the right to:

- have OSHA inspect their workplace,
- receive information and training, in a language that the worker can understand, about relevant hazards, how to prevent harm, and the applicable OSHA standards,
- receive copies of any test results that were done to find workplace hazards,
- examine records of workplace injuries and illnesses,
- receive copies of their medical records, and
- use their rights under the law without risk of discrimination or retaliation.

Among other requirements, workers must use safe practices and the safety equipment prescribed by their employer.

OSHA's Hazard Communication Standard requires employers to make MSDSs for hazardous substances available to workers at all times. Facilities should take care to understand and comply with the requirements of OSHA's Hazard Communication Standard, as improper compliance was among the most common violation of OSHA standards cited in 2011. It is also important for facilities to identify whether they are subject to any state or municipal legal requirements. OSHA encourages states to develop their own occupational health and safety programs, with standards that must be at least as stringent as those at the federal level. There are currently 22 US states that have their own health and safety programs.⁷

⁶ US Occupational Safety and Health Administration. Rights and responsibilities: <<http://www.osha.gov/workers.html#2>>.

⁷ US Occupational Safety and Health Administration. Health and safety programs:

Legal Compliance Overview – Occupational Health and Safety – United States

Enforcement

OSHA standards are enforced through the use of inspectors, referred to as compliance safety and health officers, who may arrive at a facility without advance notice and have the authority to issue penalties, primarily in the form of fines, for non-compliance.

Example 1 of penalties for health and safety violations

After an inspection of an electronics recycling facility in March 2012, OSHA proposed fines to an electronics recycling company of over \$67,000. OSHA cited 11 H&S violations, primarily related to lead exposure, including:

- allowing workers to be exposed to lead concentrations above allowable thresholds,
- failure to implement controls to reduce exposure to lead,
- failure to provide clean protective clothing,
- failure to keep the lunchroom free of the accumulation of lead,
- failure to measure how effectively the ventilations systems control exposure,
- failure to implement a medical surveillance and respiratory program to monitor employees who have been exposed to lead at or above certain quantities,
- failure to provide workers with appropriate training relating to lead hazards and exposure to other chemicals,
- failure to implement appropriate guards for machinery, and
- failure to provide hard hats in areas where workers may be hit by overhead falling objects.

Example 2 of penalties for health and safety violations

In July 2012, following a combustible dust explosion where 2 workers were injured with severe burns, OSHA proposed over \$60,000 in penalties to an electronics recycling company. OSHA cited the company with 14 H&S violations, including:

- failure to put in place adequate dust collection and fire suppression systems for the ring mill,
- failure to provide training and certification to forklift operators,
- failure to develop lockout/tagout procedures and procedures for the entry of confined spaces,
- failure to perform adequate housekeeping to control the accumulation of combustible dust,
- failure to implement a program for hearing conservation,
- failure to ensure that work surfaces were free of lead, and
- failure to implement a program for respiratory protection.

See case studies on this page for examples^{8,9} of penalties for violations of OSHA standards.

Managers must keep records of occupational health and safety incidents that occur at the facility. The US Occupational Safety and Health Administration has an online downloadable booklet that contains guidance for completion of a “Log of Work-Related Injuries and Illnesses.”¹⁰

⁸ <<http://www.osha.gov/dcsp/osp/faq.html#oshaprogram>>.

US Occupational Safety and Health Administration. OSHA Regional News Release, 9 July 2012. Online at: <http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=NEWS_RELEASES&p_id=22671>.

⁹ US Occupational Safety and Health Administration. OSHA Regional News Release, 27 Sept. 2012. Online at: <http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=NEWS_RELEASES&p_id=23046>.

¹⁰ US Occupational Safety and Health Administration. OSHA’s Form 300 (Rev. 01/2004).

Legal Compliance Overview – Occupational Health and Safety – Mexico

5.7.4 Occupational Health and Safety—Mexico

Workplace health and safety in Mexico is regulated at the federal level by a legal framework that includes the Federal Regulation for Occupational Safety and Sanitation and the Environment (Safety Regulation), which is overseen by the Ministry of Labor and Social Welfare (STPS), the Federal Labor Law (LFT), and the Social Security Law.

Exhibit 5: Rights and Responsibilities under Mexican Law

Federal occupational health and safety standards fall into three primary categories:¹¹

1. safety standards, which address accident risks,
2. health standards, including risks from toxins, carcinogens, and poor air quality, and
3. structural standards, which include hazard reporting, information management and joint committees.

Mexico's Constitution and legal framework require all employers to:¹²

- protect the health and safety of employees, with specific mention of pregnant and lactating women,
- maintain health and safety programs,
- maintain systems to ensure compliance and compliance verification,
- ensure that proper equipment and hazardous substance controls are used,
- support the operation of joint committees,
- provide workers with information and training about workplace risks, especially hazardous substances,
- post rules regarding occupational health and safety in the workplace,
- allow inspections of the workplace, and
- report to authorities, including regarding any accidents and work-related illnesses.

Mexico's legal requirements specify that workers must:

- comply with applicable standards,
- assist co-workers that are in danger,
- cooperate with workplace joint committees,
- participate in workplace training,
- use required personal protective equipment,
- undergo medical exams, and
- report any breaches of safety to the employer.

Workers have the right to:

- be made aware of the workplace's health and safety record by the joint committee,
- be present at and speak freely while inspections are taking place, and
- receive copies of the results of inspections.

Managers must keep records of occupational health and safety incidents that occur at the facility. There is a standard government form for notification of accidents at work.¹³

¹¹ US Bureau of Bureau of International Labor Affairs,
<<http://www.dol.gov/ilab/media/reports/nao/oshreport4.htm#.UG9uV677SSo>>.

¹² Ibid.

¹³ *Norma Oficial Mexicana: NOM-021-STPS-1994. Relativa a los Requerimientos y Características de los Informes de los Riesgos de Trabajo que Ocurran, para Integrar las Estadísticas*. Online at: <<http://asinom.stps.gob.mx:8145/upload/noms/Nom-021.pdf>>.

Legal Compliance Overview – Occupational Health and Safety – Mexico

The Mexican Labor Ministry offers a “Safe Enterprise” accreditation, which companies can apply for. This accreditation means that a company can assure its workers that it meets all of the Labor Ministry health and safety requirements to provide a safe workplace. This type of accreditation is very valuable for an electronics refurbishing or recycling company to have, and it showcases the company in a very positive light, as one that cares for the health and safety of its workers.

Enforcement

Mexico’s occupational health and safety legal requirements are primarily enforced at the federal and state levels. Inspectors must give one day of advanced notice and specify the nature of the inspection, what legal requirements are involved, and what documents the employer must produce. Inspections may happen on a one-year periodic basis or there may be a special inspection if authorities have reason to be concerned about workplace safety. Workers, employers and unions may all report concerns about violations to the authorities. Inspectors monitor workplace permits, the operations of joint committees, and employee ability certificates. They also provide safety and health advice. Employers and the Labor Ministry (STPS) may also hire private firms, called verification units, to monitor compliance.

Joint committees, with equal representation from workers and management, are an additional mechanism for ensuring compliance with legal requirements. They help monitor compliance, assist in STPS inspections, provide follow-up inspections, investigate the causes of accidents, propose preventive measures, and report on failed abatement measures.

Penalties tend to be given primarily for immediate dangers or for a facility’s failure to mitigate any hazards already identified by inspectors or joint committees. These penalties can include fines or other sanctions, including requiring a facility to close in part or in full.¹⁴

Mexico’s voluntary compliance initiative allows employers to request advisory inspections under STPS’s advice and orientation program. These inspections are intended to help employers improve their workplace health and safety management, and penalties are not issued.¹⁵

Notes

¹⁴ US Bureau of Bureau of International Labor Affairs,
<<http://www.dol.gov/ilab/media/reports/nao/oshreport4.htm#.UG9uV677SSo>>.

¹⁵ Ibid.

Notebook

Facility Check-in



- Goal:* My facility regularly monitors, reviews, and meets its occupational health and safety requirements and takes all precautions to ensure worker safety.

Note the current situation: _____

Note any ideas you have on where improvement could be made: _____

Are there any challenges to meeting compliance with occupational health and safety regulations or best practices? How might these challenges be overcome? _____

Note one step you can take today/next week/next month to improve occupational health and safety at your facility _____

Environmental Approvals and Reporting Legal Overview

5.8 Environmental Approvals and Reporting Legal Overview

5.8.1 Introduction—Environmental Approvals

Wherever your facility is located, it will need to ascertain whether certain permits and approvals are necessary to:

- ✓ undertake business operations and activities,
- ✓ generate, store, transfer and dispose of waste,
- ✓ release pollutants to land, water, and air, and,
- ✓ engage in specific processes related to refurbishing and recycling.

Permits and approvals may include a water discharge permit, an air emissions permit, a storage permit, and/or a permit to transfer wastes for processing, among many others. Please note that this training will only consider requirements for operations, not legal requirements for opening a new facility.

You will also want to ensure that you have identified any applicable reporting requirements under federal, state/provincial/territorial, and local programs. Some examples of such programs are presented below.

5.8.2 Introduction—Pollutant Release and Transfer Registers (PRTs)

In response to public concerns about industrial releases, Mexico, Canada and the United States have all established what are known as pollutant release and transfer registers (PRTs). PRTs require facilities to report how much of and what type of pollutant they release on-site to the air, water or land, and how much and what type of pollutant they have sent off-site for disposal, recycling, or some other type of management. These pollutants include: known and suspected carcinogens; persistent, bioaccumulative and toxic substances, which can present risks to human health and the environment even in small quantities; and developmental and reproductive toxic substances.

Each country's national government has selected, together with industry stakeholders, specific pollutants for reporting at designated release thresholds. These substances have been selected because they present risks to human health and the environment. Each country has established specific release thresholds for each pollutant, depending on the substance's particular risk. Information provided by facilities is used to monitor industrial releases and is made publicly available.

An overview of the environmental approvals authorities for Canada, the United States, and Mexico is presented on the following pages.

Legal Compliance Overview – Environmental Approvals and Reporting – Canada

5.8.3 *Environmental Approvals and Reporting—Canada*

In Canada, federal, provincial/territorial and municipal governments establish and administer laws governing environmental protection. In general, the federal government regulates environmental and other issues related to international, national, interprovincial and inter-territorial matters, including the transportation of dangerous goods and waste. Provincial and territorial governments regulate environmental and other issues within their own jurisdiction, including the transportation of dangerous goods and waste, and controls for licensing waste and recycling generators, carriers and treatment facilities. Municipal governments have authority over local matters, including sewer discharge bylaws and the collection, diversion (e.g., recycling) and disposal operations for municipal solid waste. The following offer some guidelines for what is regulated and what your facility may need to examine to ensure legal compliance.

Exhibit 6: Regulation of Environmental Releases in Canadian Jurisdictions**Air Emissions**

- Most of the contaminants that facilities release to the air require provincial or territorial permits.
- Federal, provincial and territorial controls apply to toxic substances, particulate matter, visible emissions, and odors.
- Authorities monitor compliance, using both modelling and monitoring.
- Standards may differ by jurisdiction and are amended from time to time.

Waste

- Nearly every facility engaged in waste collection, storage, processing, transfer, or disposal will require provincial or territorial authorization to do so.
- A number of provinces have mandated extended producer responsibility and product stewardship programs for used and end-of-life electronic products and batteries. These programs typically require service providers to demonstrate that they meet ESM requirements and/or standards before participating as an authorized refurbisher or recycler.
- Hazardous and liquid industrial wastes are regulated at both the federal and provincial levels. Hazardous waste “generators” which generate waste above a specific threshold, must register, pay fees, and provide reports for the waste they generate. They must also track any transfer of waste until its final disposal, using a manifest system. A generator is also responsible for pre-treating any hazardous wastes before disposal on land. Penalties for the improper management of hazardous waste are severe.
- Inter-provincial movements and the import and export of hazardous wastes are subject to federal regulations, which are in accordance with the Basel Convention and other international agreements (see Section 5.9 in this module).

Water Discharges

- The federal government regulates inland fisheries and the seacoast, and prohibits discharges of “deleterious substances” into water inhabited by fish.
- Discharges into fresh water, including groundwater, are regulated by the provincial and territorial governments. A facility wishing to discharge pollutants will need to seek specific permits or approvals, and approvals are particularly stringent for water discharges to sources of drinking water.
- Typically, discharges into the municipal sewer system are governed by municipal sewer use by-laws.¹⁶

¹⁶ Saxe Law Office. Canadian Environmental Law. Quick Intro, at: <<http://envirolaw.com/quick-intro-canadian-environmental-law/>>.

Legal Compliance Overview – Environmental Approvals and Reporting – Canada

Useful Resource

An example of the process to determine your legal requirements in Canada can be found at the following link (Electronic Products Recycling Association, Canada—Recycler Qualification Office).

<http://rqp.ca/ESW/Files/In_Focus_-_Legal_and_Other_12.03.05.pdf>

Environmental Reporting—National Pollutant Release Inventory (NPRI)

Canada established the National Pollutant Release Inventory (NPRI) in 1993 as its pollutant release and transfer register. The NPRI requires reporting from any facility that manufactures or uses listed chemicals above a specific threshold. An exemption exists for facilities where employees work less than a total of 20,000 hours, and for a few specific activities including research and retail sale. The NPRI requires reporting for more than 300 pollutants or pollutant groups. These pollutants include mercury, cadmium, lead, polycyclic aromatic hydrocarbons (PAHs), dioxins, furans, hexachlorobenzene (HCB), and VOCs, among many others.

Useful Resource

To help facilities identify whether they need to report to the NPRI and how to do so, Environment Canada, the federal department that administers the NPRI, develops a yearly Guide for Reporting to the NPRI. Access this resource at: <<http://www.ec.gc.ca>>

Environmental Approvals and Reporting—Enforcement

Under each jurisdiction's laws and regulations, a facility can be penalized for infractions that include failing to provide reports, not complying with an approval or permit, and emitting too much of a pollutant. If a facility is found to be non-compliant, an enforcement officer or regulator can require it to limit its emissions or discharges, monitor the pollution, or even stop its operations. Penalties can include monetary fines and even prison if the offenses are brought to criminal court.

Reporting airborne contaminants in Ontario, Canada

Ontario's Airborne Contaminant Discharge Monitoring and Reporting Program requires facility owners and operators to calculate air emissions, keep records, and report to the Ministry on annual emissions above specific thresholds.

Source sectors for reporting include non-ferrous metal smelting and refining (not including aluminum), computer and electronic product manufacturing, waste treatment and disposal, other waste management services, and electrical equipment and component manufacturing.

Legal Compliance Overview – Environmental Approvals and Reporting – United States

5.8.4 Environmental Approvals and Reporting—United States

In the United States, environmental permits are generally regulated by the states or local governments, although some are issued at the national level. If your facility releases contaminants into the air, water, land or sewers, or if you store, transport or dispose of hazardous wastes, you will most likely need an environmental permit.

For example, the State of California has its own regulations regarding disposal of cathode ray tubes to support the electronics refurbishing and recycling sector in the state because it has a regulated electronics recycling program.¹⁷

At the federal level, a number of resources exist to help small businesses be compliant with environmental regulation. For instance:

- The United States Environmental Protection Agency’s (EPA’s) Small Business Compliance Policy gives incentives to small businesses to identify and address environmental problems.
- EPA’s Small Business Ombudsman helps small businesses communicate with the EPA.
- EPA’s Small Business Administration supports small businesses to help them meet their environmental legal compliance.

How to identify permit requirements

To identify the environmental permits your facility needs, visit your state and local governments’ websites. A good place to start is to look for a section dedicated to “permits” or “business.”

As an example, the State of Ohio provides information about permits under its “Do Business” menu bar. After clicking on this link you can access the state’s “Permit Wizard.” This tool allows you to enter what environmental topics you are interested in and once you have answered specific questions you will receive a summary of permits, licenses, and registrations that your business is likely to need.

Useful Resource

Environmental Reporting Requirements by Law and Checklist—a section of the Small Business Environmental Home Page, which is a government-funded website dedicated to providing assistance to small business. This resource summarizes federal environmental reporting requirements and to whom they apply.

<<http://www.smallbiz-envioweb.org/Compliance/ReportingRequirements.aspx>>

¹⁷ State of California. Department of Toxic Substances Control. 2011. Emergency Regulations. CRT and CRT Glass Disposition Options (2011). DTSC Reference Number: R-2011-03. Online at: <http://www.dtsc.ca.gov/LawsRegsPolicies/Regs/CRT_Glass_Disposal.cfm>.

Legal Compliance Overview – Environmental Approvals and Reporting – United States

Exhibit 7: Regulation of Environmental Releases in the United States

Air Emissions¹⁸

- The Air Pollution Operating Permit Program, under the Clean Air Act, streamlines the requirements for air pollution control and allows facilities to obtain a single “operating permit” to satisfy federal, provincial and local air emission requirement.
- Under this program, States must develop and implement their own operating permit program that meets minimum standards set by the federal Environmental Protection Agency (EPA).
- Operating permits are required by facilities that meet the requirements under the New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants, and facilities that emit toxic air pollutants above minimum thresholds.
- Facilities that require an operating permit will need to provide emissions reports at least on a semi-annual basis, certify their compliance status on an annual basis, and pay fees, which are typically based on how much a facility emits. In general a facility will need to renew its operating permit every 5 years.

Water Discharges

- Under the Clean Water Act, any facility that discharges pollutants from a point source into waters in the United States must obtain a National Pollutant Discharge Elimination System (NPDES) permit.
- If you require a NPDES permit you will need to figure out whether your State has been authorized to issue permits or if you have to apply to the federal EPA.

Hazardous Wastes

- Hazardous waste is regulated by the federal Resource Conservation and Recovery Act (RCRA).
- Any treatment, storage and disposal of hazardous waste requires a permit that can be issued by authorized States, or the federal EPA if the State has not been authorized to issue permits. RCRA permits typically require that facilities provide their employees with hazard training, develop emergency plans, and be insured and have financial backing. A facility may also need to conduct specific actions to receive a permit, such as groundwater monitoring. Note that if your facility only stores hazardous waste for a short period of time, it may not need a permit.¹⁹
- RCRA encourages the reuse and recovery of hazardous materials; however, recycling activities are closely regulated. Those who handle hazardous materials intended for recycling must generally follow the same regulations as those who manage hazardous wastes before they are disposed of. If your facility recycles hazardous wastes you need to notify EPA of your activities before you undertake them and get an EPA identification number.
- Some hazardous waste recycling activities are regulated differently, depending on their potential to cause harm. For instance, scrap metal that will be recycled to recover its metal content is exempt from hazardous waste regulation, while precious metal reclamation is only partially exempt and subject to specific standards. The designation of “universal waste” applies to a few specific materials that have been given more streamlined management provisions during storage, transport and collection to support their recycling. Universal wastes include hazardous waste batteries, mercury-containing equipment, and lamps.²⁰ In addition, cathode ray tubes (CRT)s and CRT glass destined for recycling are given conditional exclusions to encourage their recycling and reuse.
- Many states have implemented landfill bans on used electronics and the number is growing.
- The transboundary movement of hazardous waste is also heavily regulated in the United States.

¹⁸ US EPA. Air Pollution Operating Permit Program Update: Key Features and Benefits, <<http://www.epa.gov/air/oaqps/permits/permitupdate/brochure.html#what>>.

¹⁹ US EPA. Hazardous Waste Permitting Accomplishment Reports, <<http://www.epa.gov/wastes/hazard/tsd/permit/pgprprpt.htm>>.

²⁰ US EPA. Guidance Manual on Hazardous Waste Recycling and Universal Wastes, <<http://www.epa.gov/osw/inforesources/pubs/orientat/rom32.pdf>>.

Legal Compliance Overview – Environmental Approvals – United States

The following example details one state’s helpful guidance outlining its specific legal requirements that relate to electronics recyclers:²¹

Minnesota Pollution Control Agency: Managing Used Electronics– Guidance for recyclers

If you are an electronics recycler, you must comply with the following requirements:

1. **Storage.** Protect the used electronics from precipitation by storing it indoors or in impervious containers. Before processing, store any used electronics that might release hazardous constituents – such as cracked monitors or crushed components – in a closed container that is impermeable. Label the container with “Electronics for Recycling.” If you have a spill of hazardous constituents, ensure you contain and completely clean up the spill. Manage the spill debris as a newly generated waste and assume it is hazardous. Also assume all wastes generated from your recycling process are hazardous until you have evaluated and documented them to be non-hazardous.
2. **Recordkeeping and reporting.** If you do not have a Hazardous Waste Generator License (HWID), obtain one by visiting the MPCA at <<http://www.pca.state.mn.us/publications/w-hw7-09.pdf>> to complete MPCA hazardous waste form #7.09, Notification of Regulated Waste Activity. Annually submit a Hazardous Waste Generator License Application.

Submit an *E-waste Management Plan* to the MPCA that describes your recycling process, the environmental and health safeguards you use in your process, the methods you use to evaluate the wastes or other materials your recycling process generates, and how you or another facility will dispose or reuse all of the wastes and other materials generated from your recycling process. Submit an updated plan to the MPCA whenever you change your used electronics recycling process.

Keep records of all shipments to and from your recycling facility for the past three years. Also, obtain and keep records of the final recycling or disposal locations of all material sent from your site for the past three years. Ensure that all sites to which you ship material are authorized by the state in which they are located and compliant with local requirements.

3. **Liability insurance** Obtain and maintain liability insurance of at least \$1,000,000 (one million) dollars coverage for environmental releases, accidents, and emergencies. Ensure that all sites to which you ship used electronics have equivalent coverage.
4. **Partial exemptions for recyclers of only business-generated circuit boards.** If the only used electronics you recycle are circuit boards generated by businesses, you need not comply with the management plan or the insurance requirements discussed above. If all mercury switches, relays, and batteries have already been removed from the circuit boards, you are further exempted from the HWID and record keeping requirements above.
5. **Additional requirements for recyclers of household E-waste** If you recycle used electronics from households, register with the MPCA using the Recycler Registration Form at <<http://www.pca.state.mn.us/index.php/view-document.html?gid=4835>>.

Annually report the weight in pounds using the Recycler Reporting Form at <<http://www.pca.state.mn.us/publications/w-gen2-61.xls>>.

²¹ Minnesota Pollution Control Agency. Managing Electronic Wastes—Guidance for Generators, Collectors, and Recyclers, <<http://www.pca.state.mn.us/index.php/view-document.html?gid=4064>>.

Legal Compliance Overview – Environmental Approvals – United States

Enforcement

Section 313 of the Emergency Planning and Community Right-to-Know Act gives the EPA the mandate to investigate cases of non-compliance and to issue penalties, including fines, and to require corrective action.

Common violations observed at US electronics recyclers

The State of California’s Department of Toxic Substances regulates activities at electronics recycling facilities. The Department has published an online guidance document outlining the top eight most common violations observed at electronics recycling facilities in California, and guidance on how to prevent or correct these violations.

It is available for free at:
<<http://www.dtsc.ca.gov/HazardousWaste/EWaste/upload/E-Waste-8-Violations-Guidance.pdf>>.

Reporting to the Toxics Release Inventory in the US

The United States established its PRTR, the Toxics Release Inventory (TRI), in 1986, to provide public access to its toxic chemicals reporting and data collection program.

TRI requires facilities to report on nearly 650 chemicals and chemical categories that are managed through disposal, recycling, energy recovery, treatment, and other processes. Facilities that are required to report to TRI include manufacturing, metal and coal mining, and other industrial sectors. More than 20,000 facilities report to TRI. Facilities must only report to TRI if they employ the full-time equivalent of 10 or more employees and manufacture, process or use over a specific threshold of TRI-listed chemicals in a given year. Any facility that meets the requirements for reporting to TRI must submit a form both to the federal EPA and the state in which it is located for each TRI-listed chemical it uses above the reporting threshold.

Useful Resource

The TRI website provides all the information a facility needs to know about reporting to it. Access this resource at: <<http://www.epa.gov/tri/index.htm>>

Legal Compliance Overview – Environmental Approvals and Reporting – Mexico

5.8.5 *Environmental Approvals and Reporting—Mexico*

Environmental matters are regulated at the federal, state, and municipal levels in Mexico. The Federal Ministry of the Environment and Natural Resources (Semarnat) is responsible for issuing environmental permits, licenses and authorizations. A separate permit is needed for each environmental activity (air, water, environmental impact, etc.). In order to legally operate, a facility must secure an environmental operating license.

Exhibit 8: Regulation of Environmental Releases in Mexico**Air Emissions**

- Some pollutants are prohibited from being released into the air while others are only allowed to be released under a certain threshold.
- If your facility releases air emissions that are regulated at the federal level, you will need to be issued a Unique Environmental Licence from Semarnat. Those who are issued permits are required to make annual reports on their emissions.
- There are some emissions that are not regulated by federal authorities but rather are controlled at the local level and so you will want to explore your local regulations to ensure compliance.

Wastewater Discharges

- Some pollutants are prohibited from being released into the water while others are only allowed to be released under a certain threshold.
- Any facility wishing to discharge wastewater to a national water body must be issued a permit to do so by the National Water Commission (Conagua).
- Any facility wishing to discharge wastewater to the local sewer system above a maximum allowable limit must be issued a permit by the relevant municipality.

Waste

- A facility that generates and/or handles hazardous wastes will need to gain authorization and register as a waste generator with Semarnat.
- Hazardous waste generators must prepare and submit a number of reporting and tracking obligations, including a generator manifest for each hazardous waste stream generated; storage logs; disposal reports; a hazardous waste training program; and a hazardous waste contingency plan.²²
- Storage of hazardous wastes and raw materials are also regulated federally. Facilities must comply with requirements for containment and labeling.
- Federally regulated hazardous wastes include materials that contain cadmium, chromium, mercury, lead, and PCBs, and spent or used zinc and lead-acid batteries. Some materials that are considered hazardous waste and require the development of a management plan include: mercury- or nickel-cadmium-containing batteries; fluorescent lamps containing mercury; and persistent organic compounds such as polychlorinated biphenyls (PCBs). A number of other electronic components are federally regulated, including batteries and CRTs.
- States regulate wastes generated from the recycling and refurbishing of used, discarded and end-of-life electronic industry that do not classify as hazardous wastes or urban wastes as Wastes of Special Management (WSM). WSM includes televisions, computers, telephones, printers, and specific components such as whole or shredded circuit boards. Under federal regulation, WSM generators must develop and follow a management plan for these wastes under the oversight of state authorities.
- There are some permits required by some state Offices of Environmental Management for e-waste disassembly, refurbishment and recycling. Check with your local State Government.

²² US-Mexico Chamber of Commerce, US Department of Commerce, and Semarnat. Framework of Mexican Environmental Law: An Overview. Online at: http://www.ventanambientalmexico.com/flat_files/Other/info.htm.

Legal Compliance Overview – Environmental Approvals – Mexico

Registro de Emisiones y Transferencia de Contaminantes (RETC)

Mexico’s pollutant release and transfer register (*Registro de Emisiones y Transferencia de Contaminantes*—RETC) was established in 2004 to support the public right-to-know. Facilities that need to report to RETC include those regulated under federal laws, and facilities that are engaged in or manage specific activities subject to federal regulation, such as discharges to national water bodies, or utilize, produce or otherwise emit, discharge, release or transfer hazardous wastes or hazardous materials. Facilities that fall under the regulation must report to officials on each listed pollutant that they release or transfer above a minimum threshold.

Environmental Approvals—Enforcement

The Federal Attorney for Environmental Protection (*Procuraduría Federal de Protección al Ambiente*—Profepa) carries out inspections and enforces authorizations at the Federal level. It has the mandate to impose fines and other penalties, including facility closure and seizure of property.

Notes



Notebook

Facility Check-In



- Goal:* My facility regularly monitors, reviews, and meets its environmental approvals and reporting requirements.

Note the current situation: _____

Note any ideas you have on where improvement could be made: _____

Are there any challenges to meeting compliance with environmental approvals and reporting requirements or best practices? How might these challenges be overcome?

Note one step you can take today/next week/next month to improve compliance with environmental approvals/permits at your facility.

Transportation and Transboundary Movement of Hazardous Waste Legal Overview

5.9 Transportation and Transboundary Movement of Hazardous Waste

5.9.1 Introduction

If your facility transports, imports, or exports used and *end-of-life electronic products, components and processed materials that meet legal definitions of hazardous waste* of any of the jurisdictions in which it carries out business operations, you need to identify, understand and comply with all applicable legal requirements. This may include identifying and complying with all applicable legal requirements in other countries too, particularly if export of goods and materials takes place.

To fully implement environmentally sound management, it is necessary to make sure that your downstream processors comply with all applicable legal requirements and agreements that apply to their operations and activities.

For more information about asking the right questions of downstream vendors, see Module 4

Notes



Avoid the illegal waste trade

Being associated with the illegal waste trade is not the kind of attention that you are looking for and can irreparably damage a business's image and integrity, and destroy trust with clients, investors, regulatory authorities and the public. Make sure to ask the right questions of all of your downstream processors, to avoid getting caught up in the illegal waste trade. Some questions include:

- Is your facility registered or certified under a recognized verification and certification program, and if so, which one(s)?
- What measures are in place in place to ensure that shipments from your facility are not illegal and only managed by downstream processors that respect ESM?
- Are your shipments subject to legal requirements, and if so what types?
- Are your shipments controlled as a hazardous waste according to the laws of importing or transit countries that receive your shipments, and how do you know?
- Do you ship equipment for reuse, and if so do you test it to confirm that it is in good working condition prior to export and ensure that the used equipment is properly packaged to minimize damage during transport?
- Do you export to developing countries, and if so which ones? Does this movement require a permit and how do you know?

Legal Compliance Overview – Movement of Hazardous Waste – International Agreements

International and bilateral agreements pertaining to Canada, Mexico and the United States applicable to the movement of hazardous and other wastes (that may include processed and unprocessed used and end-of-life electronic products) are shown in Exhibit 9.



Exhibit 9: International and Bilateral Agreements Pertaining to Canada, Mexico and the United States Applicable to the Movement of Hazardous and Other Wastes (that May Include Processed and Unprocessed Used and End-of-life Electronic Products)

| International / Bilateral Trade Agreement | Signatories / Countries Subject to the Agreement |
|--|--|
| The Mexico-USA Agreement on Cooperation for the Protection and Improvement of the Environment in the Border Area (commonly known as La Paz Agreement and its Annex III, 1983). | The Agreement governs transboundary movements of hazardous materials and wastes between Mexico and the United States. |
| The Canada-USA Agreement Concerning the Transboundary Movement of Hazardous Wastes (1986, amended in 1992). | The agreement governs movements of hazardous waste between Canada and the United States. |
| The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (1989). | Over 175 countries are recognized as Parties under the Basel Convention, including Mexico and Canada. The US is a signatory to the Convention but has not ratified it. ²³ |
| Decision C(2001)/107/Final of the Council of the Organisation for Economic Co-operation (OECD) Concerning the Control of Transboundary Movements of Wastes Destined for Recovery Operations. | Canada, Mexico, and the US are members of the OECD and subject to OECD decisions and recommendations. |



Useful Resource

The CEC’s **Hazardous Waste Training: Hazardous waste and Hazardous Recyclable Materials Regulations in North America** is an online module providing training on the laws and regulations relating to the transboundary movements of hazardous waste and hazardous recyclable materials in Canada, Mexico and the United States.

Access this resource at: <http://www.cec.org/hazwaste/>

²³ “Parties may enter into bilateral, multilateral, or regional agreements or arrangements regarding transboundary movement of hazardous wastes or other wastes with Parties or non-Parties, provided that such agreements or arrangements do not derogate from the environmentally sound management of hazardous wastes and other wastes as required by this Convention.” UNEP. Basel Convention. 1989.

Legal Compliance Overview – Movement of Hazardous Waste – International Agreements

While each country may have a somewhat different definition of hazardous waste, all definitions generally refer to some level of risk to human health and/or environment (e.g., toxicity, flammability, corrosivity, etc.), which are specified in the country's regulations. The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal was adopted in 1989 in response to a public outcry following the discovery of deposits of toxic wastes imported from abroad in Africa and other parts of the developing world. Details regarding the Basel Convention are available at: www.basel.int. Annex VIII–List A of the Convention identifies wastes that are considered to be hazardous under the Convention unless they do not possess hazardous characteristics as specified under the Convention (e.g., explosivity, flammability, corrosivity, toxicity, etc.). Annex VIII–List A includes the following wastes which may pertain to processed or unprocessed used and end-of-life electronic products:²⁴

- metal wastes and waste consisting of alloys of any of the following: antimony, arsenic, beryllium, cadmium, lead, mercury, selenium, tellurium, or thallium;
- waste having as constituents any of the following: antimony, beryllium, cadmium, lead, selenium, or tellurium;
- ashes from the incineration of insulated copper wire;
- precious metal ash from incineration of printed circuit boards;
- unsorted waste batteries; and
- waste electrical and electronic assemblies or scrap containing components such as accumulators and other batteries, mercury-switches, glass from cathode-ray tubes and other activated glass and PCB-capacitors, or contaminated cadmium, mercury, lead, or polychlorinated biphenyls (PCBs).

²⁴ UNEP. 2007. *E-waste Volume I: Inventory Assessment Manual*. Section 2.2, list of hazardous wastes generated by e-waste under the Basel Convention.

Legal Compliance Overview – Transportation and Transboundary Movement – Canada

5.9.2 *Transboundary Movement of Hazardous Waste—Canada***Regulatory Context**

In Canada, international shipments of hazardous waste and hazardous recyclable materials are regulated at the federal level by the *Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations* (EIHWHRMR) under the *Canadian Environmental Protection Act* (CEPA). In addition, Canadian provinces are responsible for authorizing the recycling or disposal of any imports of hazardous waste or hazardous recyclable materials into Canada, and for regulating movement within provinces.²⁵

Environment Canada offers a number of classification guides and other tools to help you to determine whether your shipments are subject to control under the federal EIHWHRMR at <<http://www.ec.gc.ca/gdd-mw>>.

Notification and Approval

If your facility is involved in the export, import, or other transport of hazardous waste or hazardous recyclable materials across Canadian borders, you will need to notify Environment Canada about your intention to make a shipment. This notification will require you to provide information such as:

- ✓ the nature and quantity of the hazardous materials,
- ✓ addresses and sites of exporters, importers, and transporters,
- ✓ how the materials will be disposed of or recycled,
- ✓ proof of insurance coverage; and
- ✓ proof of written contracts between those importing and exporting the materials.

Environment Canada will determine whether your proposed shipment is in line with the regulations and protective of human health and the environment. If your shipment is subject to control under the regulations, Environment Canada will notify the authorities in the importing country and those that the waste will be transported through. Authorities have the chance to object to the proposed shipment or approve it.

Canada's EIHWHRMR and TDGA

The *Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations* (EIHWHRMR) control and track the movement of hazardous waste and hazardous recyclable material between Canada and other countries, and implement the prior informed consent mechanisms for exports, imports and transit of such materials. They apply to all individuals and businesses that export from, import into, or transit within Canada, for recycling or disposal purposes, wastes or materials that are considered to be hazardous under the EIHWHRMR. Included are, for example, generators, receivers, carriers, brokers, agents, and transfer stations.

The *Transportation of Dangerous Goods Act* (TDGA) aims to prevent incidents during the import, handling and transport of dangerous goods.

²⁵ Environment Canada. EIHWHRMR User Guide: <<http://www.ec.gc.ca/gdd-mw/default.asp?lang=En&n=5D5BE79E-1&offset=2&toc=show>>.

Legal Compliance Overview – Transportation and Transboundary Movement – Canada

Transportation

Once approval has been given, shipments of hazardous waste and hazardous recyclable materials need to meet the requirements set out in the EIHWRMR and the conditions of the shipping permit. These requirements include specifications for how materials need to be packed for transport, what documentation needs to accompany the materials, training requirements for those who handle and transport materials, the need to establish an emergency response assistance plan, and other requirements.

The 2010 Electronics Product Stewardship Canada (EPSC) *Recycler Qualification Program for End-of-life Electronics Recycling* manual²⁶ and the Electronic Products Recycling Association (EPRA) 2012 *Electronics Reuse and Refurbishing Program* Implementation Guide²⁷ provide some useful best practices pertaining to legal requirements during transportation:

Electronics Product Stewardship Canada Recycling/Refurbisher Qualification Programs Transportation Requirements

Recyclers and refurbishers should ensure that all material is transported in a safe and environmentally sound manner, in accordance with regulatory requirements. At a minimum, this should include the following:

- 1) maintain a documented procedure to identify when export/import regulations, Transportation of Dangerous Goods Act, or equivalent regulations apply to shipments and the specific requirements the applicable materials must be shipped under;
- 2) provide specific training for those workers who handle, offer for transport, or transport dangerous goods or other regulated materials;
- 3) maintain a documented process to evaluate third-party transporters and assess their ability to handle material in a safe and environmentally sound manner, in accordance with regulatory requirements;
- 4) maintain evidence of the transporter's relevant regulatory permits/approvals, including applicable permits/approvals for:
 - a. transporting regulated materials, and
 - b. storing regulated materials where storage or consolidation services may be used; and
- 5) maintain evidence of the transporter's insurance coverage.

²⁶ Electronics Product Stewardship Canada (EPSC). 2010. *Recycler Qualification Program for End-of-life Electronics Recycling*. Section 11.

²⁷ Electronic Products Recycling Association (EPRA). 2012. *Electronics Reuse and Refurbishing Program*. Part B: Implementation Guide.

Enforcement

The Canadian Border Services Agency (CBSA) and Environment Canada (EC) jointly enforce Canadian federal export requirements for hazardous waste and hazardous recyclable materials, including the import and export of used and end-of-life electronic products. In an effort to control the illegal transport and export of these materials, the joint initiative conducts inspections that may result in detentions. Regulations allow for fiscal penalties and imprisonment for non-compliance.

Examples of penalties for hazardous waste import/export violations are presented in the text box to the right.²⁸

Penalties for hazardous waste import/export violations

Between 2005 and 2007, CBSA and EC conducted 50 inspections of marine shipping containers in the Port of Vancouver and issued monetary penalties to 27 Canadian exporters.

- A number of containers were found to contain electrical equipment containing PCBs, which are carefully regulated by Environment Canada. This equipment included older fluorescent lamp ballasts and capacitors. One exporter, who was found with scrap material contaminated with PCBs, was required to pay for environmental clean-up and disposal of the material.

- Another recycler was fined for attempting to export around 1200 used lead-acid batteries and 7 CRT monitors. The recycler was issued fines for violating both the EIHWRMR under CEPA and the Transportation of Dangerous Goods Act.

From 23 to 24 September 2009, EC, in collaboration with the US EPA and state and provincial agencies, inspected vehicles along Ontario's border. The initiative resulted in 350 vehicle inspections, the identification of 140 violations, and the launch of 8 investigations.

Environment Canada, and the Canadian Border Services Agency.

²⁸ Environment Canada. 2010. Environmental enforcement officers combat hazardous electronic waste, <<http://www.ec.gc.ca/envirozine/default.asp?lang=en&n=98428E91-1>>.

Legal Compliance Overview – Transportation and Transboundary Movement – United States

5.9.3 Transboundary Hazardous Waste—United States

Regulatory Context

The export of hazardous waste from the United States is regulated at the federal level by *Standards Applicable to Generators of Hazardous Waste*, Subparts E and H, and *Standards Applicable to Transporters of Hazardous Wastes*, of the *Resource Conservation and Recovery Act* (RCRA). The Department of Transportation's regulations for packaging, labeling, marking and placarding are used for the transport of hazardous wastes. There are also *Standards Applicable for Universal Wastes* under RCRA, which cover batteries, fluorescent lightbulbs, and mercury-containing equipment.²⁹

Some states have chosen to develop their own hazardous waste legal requirements, which must be at least as stringent as the federal regulations. Some state programs cover more wastes than are regulated at the federal level.

Notification and Approval

If you want to export what the RCRA defines as hazardous waste, you must notify the US EPA Administrator of your intention. This includes providing a description of the materials, the estimated number and frequency of shipments, the estimated quantity of waste, how the waste will be transported, what countries it will move through, and other information required by the Standards. Under the RCRA, your shipment is not allowed to proceed until the importing country provides written consent approving of the shipment. The US EPA will inform you of the importing country's consent, and the consent of any transit countries.³⁰

Transportation

The US Department of Transportation's regulations outline specific packaging requirements to prevent leakage during transport. They also require labelling to identify the characteristics and dangers of the waste materials during transport.³¹ While in transit, a shipment needs to have a uniform hazardous waste manifest attached while still in the US, and it must include the approval from the importing and transit countries and additional information that might be required for international shipping. US law requires transporters to file an annual report with the US EPA summarizing shipments for the previous calendar year.

California's specific export requirements

The State of California's *Electronic Waste Recycling Act* specifies that anyone wishing to export CRT materials or electronic devices covered by the Act, including video display devices with CRT or LCD displays, must notify the authorities and submit documentation demonstrating that the waste will be a legal import by the destination country, managed according to ESM guidelines, and meet other requirements.

California Department of Toxic Substances Control.

²⁹ US Environmental Protection Agency (US EPA). Introduction to Universal Wastes Training Module. Solid Waste and Emergency Response (5305W) EPA530-K-05-019, <<http://www.epa.gov/osw/inforesources/pubs/training/uwast05.pdf>>.

³⁰ US Government. 40 CFR Part 262—Standards Applicable to Generators of Hazardous Waste. Online at: <<http://www.ehso.com/Regfiles/40p0262.pdf>>.

³¹ US EPA. 2011. *RCRA Orientation Manual 2011*. Section III: RCRA Subtitle C—Managing Hazardous Waste. Chapter 3: Regulations Governing Hazardous Waste Generators. Online at: <<http://www.epa.gov/osw/inforesources/pubs/orientat/rom33.pdf>>.

Enforcement

Compliance monitoring responsibility under the Resource Conservation and Recovery Act (RCRA) is delegated to the states and local authorities by the United States Environmental Protection Agency (EPA). The EPA provides oversight of compliance monitoring activities in the RCRA program to ensure facilities are properly inspected.

The import-export program of RCRA controls international trade in hazardous waste for the United States. The United States is a party to various international agreements, including those with Canada and Mexico, which provide for prior notification of shipment of wastes (i.e., both importing and exporting of wastes). EPA has issued regulations under the RCRA that are binding on the regulated community. The program processes notifications; collects from the United States Bureau of Customs and Border Protection export manifests documenting individual shipments of waste; and receives export annual reports from the regulated community. The program also assists in developing and handling international and border aspects of civil RCRA enforcement matters.³²

Useful Resource

US EPA (1994): *Criteria and Process for Denial of Requests to Import Waste to a US Facility*

This memorandum identifies the criteria which EPA considers in deciding whether to object to a notification of intent to import foreign hazardous wastes to a US facility. It also establishes the procedures US facilities should follow to respond to a denial of their request to import that waste.

<<http://www.epa.gov/compliance/resources/policies/monitoring/importexport/import-waste-criteria-pg.pdf>>

Useful Resource

US EPA (1998): *International Trade in Hazardous Waste—An Overview*

This brochure presents an overview of the import/export program in the hazardous waste area. It presents basic concepts and information and is a user-friendly introduction to the program.

<<http://www.epa.gov/compliance/resources/policies/monitoring/importexport/import-waste-criteria-pg.pdf>>

³² US Environmental Protection Agency. Importing and Exporting Hazardous Waste Compliance Monitoring. Website: <<http://www.epa.gov/compliance/monitoring/programs/rcra/importexport.html>>.

Legal Compliance Overview – Transportation and Transboundary Movement – Mexico

5.9.4 **Transboundary Hazardous Waste—Mexico**

In Mexico, the shipment of hazardous waste is regulated at the national level by the General Act for the Prevention and Comprehensive Management of Waste (Ley General para la Prevención y Gestión Integral de los Residuos—LPGGIR) and the General Act on Ecological Balance and Environmental Protection (Ley General del Equilibrio Ecológico y la Protección al Ambiente—LGEEPA).

The import of electronic materials classified as hazardous waste and bound for disposal is prohibited, while imports bound for recycling are allowed. The transit of hazardous waste through Mexico is also prohibited if the generating country or importing country restricts the export or import activities.

Mexico Defines Hazardous Waste as:

Waste which has some of the following characteristics: corrosive, reactive, explosive, toxic, flammable, or that contains infectious agents; and packages, containers, packing and soils that have been contaminated when they are transferred to another site.

Notification and Approval

The LPGGIR outlines that any facility wishing to export or import hazardous waste must gain the authorization of the Secretariat of the Environment and Natural Resources (Semarnat), which will only be given if the shipment receives approval by the importing and transit countries.³³ An application to the Secretariat must include specific information detailed in the regulations such as the route of shipment, information about the hazardous waste and its properties, and emergency response measures.

Transportation

Transportation of hazardous waste for disposal or recovery is governed by LGEEPA and the Regulation for the Land Transport of Hazardous Materials and Wastes, and Mexican Standards (NOMs). These collectively outline packaging, labeling and placarding requirements; the need for specific documentation to accompany the shipment of materials; and other transportation requirements.

Enforcement

The Federal Attorney for Environmental Protection (*Procuraduría Federal de Protección de Ambiente—Profepa*), at the national level, enforces Mexico's hazardous waste legal requirements. The enforcement body has the authority to carry out inspections, issue fines of the value of 20 to 50,000 days of the Federal District's minimum wage, close facilities, take possession of plants and equipment, and suspend or invalidate approvals, licenses or permits. Profepa can also refer any criminal activity to the office of the Attorney General. Under the Federal Criminal Code, it is a crime to illegally abandon, transport, import, or export hazardous wastes. Those who are prosecuted can be fined the value of 300 to 3,000 days of the Federal District's minimum wage and sentenced to up to 9 years in prison. A crime can also include providing false information, destroying documentation, and withholding information.

³³ Basel Convention. 2011. *Country Fact Sheet: Mexico*. Download: <<http://www.basel.int/countries/countryfactsheets/tabid/1293/default.aspx>>.

Notebook

Facility Check-in



- Goal:* My facility regularly monitors, reviews, and meets its hazardous waste transportation and transboundary movement requirements.

Note the current situation: _____

Note any ideas you have on where improvement could be made: _____

Are there any challenges to meeting compliance with hazardous waste transportation and transboundary movement requirements or best practices? How might these challenges be overcome?

Note one step you can take today/next week/next month to improve occupational health and safety at your facility _____

5.10 Summary—Key Take-away Messages

Legal requirements have been established to safeguard human health and the environment. By making sure that your facility meets these requirements, you will fulfill a key component of ESM. Legal compliance will also provide your facility with many other benefits:



- ✓ Following health and safety regulations will result in a productive workplace. With healthy workers not getting ill or injured you can avoid downtime.
- ✓ You will avoid penalties for non-compliance with either occupational health and safety, or environmental protection legal requirements, which can be significant. These penalties can range from *monetary fines* to *criminal prosecution* to *facility closure*.
- ✓ Your facility will establish and maintain a reputation beyond reproach, as other companies and clients have little reason to be concerned about unlawful activity.
- ✓ Your facility is more likely to be considered an authorized service provider under extended producer responsibility and product stewardship programs for electronic products and be eligible to receive processing subsidies under these programs (i.e., if they exist and where other requirements for eligibility are met).
- ✓ Your facility will have the tools, resources and knowledge to assure investors, insurance companies, governments and the public that it operates in compliance with the law.

A systematic approach to environmentally sound management involves:

- ✓ regularly identifying and documenting applicable legal requirements that apply to your facility—procedures to identify and access these legal requirements and regulatory changes should be documented, implemented, communicated and maintained;
- ✓ periodically re-evaluating legal requirements that are applicable to facility operations and activities—this is particularly important if the scope and types of your facility operations and activities begin to change, and as new or upcoming legal requirements are introduced;
- ✓ regularly monitoring compliance with applicable legal requirements—procedures for monitoring should be documented, implemented, communicated and maintained;
- ✓ maintaining evidence of compliance with applicable legal requirements;
- ✓ communicating from time to time with relevant regulatory bodies in your jurisdiction and maintaining a good working relationship with them—regulators can also offer compliance promotion materials and training workshops to assist you understanding your legal obligations; and
- ✓ ensuring that downstream processors are compliant with applicable legal requirements and have measures in place to ensure ESM in their operations and activities.

5.11 Post-questionnaire



1. Were your questions from the Pre-questionnaire met by this module or other participants? If not, what questions remain?

2. What best practices, ideas or suggestions came out of this module and from other participants that you would like to think about implementing at your facility?

3. Is there any additional information that your facility needs to ensure that it is legally compliant?

4. What practices need to be implemented at your facility to ensure that it is legally compliant?

5.12 Additional Resources

International

Commission for Environmental Cooperation's *Crossing the Border: Opportunities to Improve Sound Management of Transboundary Hazardous Waste Shipments in North America*, available at: <<http://www.cec.org/Page.asp?PageID=924&ContentID=25129>>.

Commission for Environmental Cooperation's online module *Hazardous Waste Training: Hazardous waste and hazardous recyclable materials regulations in North America*, at: <<http://www.cec.org/hazwaste/Page.asp?PageID=924&SiteNodeID=201>>.

Commission for Environmental Cooperation's *Taking Stock: North American Pollutant Releases and Transfers*, at: <<http://www.cec.org/takingstock/>>.

Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, official website: <<http://www.basel.int/>>.

Partnership for Action on Computing Equipment (PACE), website: <<http://archive.basel.int/industry/compartnership/index.html>>.

Commission for Environmental Cooperation, *Sound Management of Electronic Wastes Initiative*, website: <<http://www.cec.org/Page.asp?PageID=924&SiteNodeID=1026>>.

Canada

Canadian Centre for Occupational Health and Safety. Information about occupational health and safety in Canada. Website: <<http://www.ccohs.ca/>>.

WorkSafeBC. Website: <<http://www.worksafebc.com/>>.

Health & Safety Ontario. Website: <<http://www.healthandsafetyontario.ca/Resources/Topics/Legislative-Compliance.aspx>>.

WHMIS. General Information & Training Requirements: <http://www.healthandsafetyontario.ca/HSO/media/WSPS/Resources/Downloads/WHMIS_General_Inf o_Traing_final.pdf?ext=.pdf>.

WHMIS: Inventory Form & Instruction Sheet: <http://www.healthandsafetyontario.ca/HSO/media/WSPS/Resources/Downloads/WHMIS_Inventory_F orm_final.pdf?ext=.pdf>.

Worker's Compensation Board of British Columbia. Sample MSDS Format (9 Sections): <<http://www.worksafebc.com/forms/assets/PDF/57m2.pdf>>.

Worker's Compensation Board of British Columbia. Sample MSDS Format (16 Sections): <<http://www.worksafebc.com/forms/assets/PDF/57m6.pdf>>.

Environment Canada. ***2011 Guide for Reporting to the National Pollutant Release Inventory (NPRI)***. <<http://www.ec.gc.ca/Publications/default.asp?lang=En&xml=FDE438B4-1329-4368-BBBA-336A194DEB6C>>.

Environment Canada. **Tools for Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations**: <<http://www.ec.gc.ca/gdd-mw/default.asp?lang=En&n=A8D9E099-1&offset=2&toc=show>>.

United States

United States Environmental Protection Agency. *Introduction to Universal Wastes Training Module.* Solid Waste and Emergency Response (5305W) EPA530-K-05-019: <<http://www.epa.gov/osw/inforesources/pubs/training/uwast05.pdf>>.

United States Environmental Protection Agency. *Small Business Compliance Policy.* Provides incentives to small businesses to help them identify and address environmental problems: <<http://www.epa.gov/compliance/incentives/smallbusiness/index.html>>.

United States Environmental Protection Agency. *Small Business Ombudsman.* <<http://www.epa.gov/sbo/>>.

United States Small Business Administration. *Environmental Regulations.* Webpage: <<http://www.sba.gov/content/environmental-regulations-0>>.

United States Environmental Protection Agency. *Federal Environmental Regulations Affecting the Electronics Industry.* <http://www.epa.gov/dfe/pubs/pwb/tech_rep/fedregs/index.htm>.

United States Occupational Safety and Health Administration (OSHA). Website: <<http://www.osha.gov/>>.

United States Occupational Safety and Health Administration (OSHA). OSHA health and safety poster: <<http://www.osha.gov/Publications/osha3165.pdf>>.

United States Department of Labor. Occupational Safety and Health Administration. Forms for Recording Work-related Injuries and Illnesses. Online at: <<http://www.osha.gov/recordkeeping/new-osha300form1-1-04.pdf>>.

Environmental Reporting Requirements Bylaw and Checklist. A listing of federal legal requirements for small businesses in the United States: <<http://www.smallbiz-enviroweb.org/Compliance/ReportingRequirements.aspx>>.

State of California. *Inspection Checklist for Universal Waste Handlers of Electronic Devices, CRTs & CRT Glass.* <http://www.dtsc.ca.gov/HazardousWaste/EWaste/upload/Ewaste_Final_UW_Handlers_checklist.pdf>.

Mexico

National Institute of Ecology and Climate Change (*Instituto Nacional de Ecología y Cambio Climático*). Website: <<http://www.inecc.gob.mx/>>.

Profepa (Office of the Federal Attorney for Environmental Protection—*Procuraduría Federal de Protección de Ambiente*). Website: <<http://www.profepa.gob.mx/>>.

General Ecological Balance and Environmental Protection Act (*Ley General del Equilibrio Ecológico y Protección al Ambiente*). Establishes provisions for hazardous waste exporting and importing. Article 153: General requirements for those wishing to export hazardous wastes. Available (in Spanish) at: <<http://www.diputados.gob.mx/LeyesBiblio/pdf/148.pdf>>.

General Act for Prevention and Comprehensive Management of Wastes (*Ley General para la Prevención y Gestión Integral de Residuos*). Title V, “Hazardous Waste Management,” ch. VII, “Importing and Exporting of Hazardous Wastes,” sets out the requirements for hazardous waste import or export authorizations (Articles 85–94). Available (in Spanish) at: <<http://www.diputados.gob.mx/LeyesBiblio/pdf/263.pdf>> <<http://vivienda.ine.gob.mx/Ley%20de%20residuos.pdf>> Summary overview available here: <<http://www.bordercenter.org/pdfs/UniformPermitandApprovalofSpecializedVehiclesforTransportation.pdf>>

Ground Transportation of Hazardous Materials and Wastes Regulation. This regulation of the Ministry of Communications and Transportation sets out the requirements for ground and rail waste transportation units and the characteristics of containers and packaging to be used in transporting wastes. Available (in Spanish) at:
<<http://www.bordercenter.org/pdfs/GroundTransportationofHazardousMaterialsandWasteRegulation.pdf>>
<<http://www.ordenjuridico.gob.mx/Estatal/DISTRITO%20FEDERAL/Reglamentos/DFREG85.pdf>>

Mexican Standards:

NOM-052-Semarnat-1993 (formerly NOM-052-ECOL-1993) Characteristics of hazardous wastes and the list thereof and the threshold above which a waste is considered hazardous due to its toxicity in the environment.

NOM 053-SEMARNAT-1993 Extractive testing procedure for determining the constituents making a waste hazardous due to its toxicity in the environment.

NOM-002-SCT/2003 List of most frequently transported hazardous substances and materials.

NOM-003-SCT/2000 Characteristics of labels of containers and packaging used in the transportation of hazardous substances, materials, and wastes.

NOM-004-SCT/2000 Identification system for units intended for transportation of hazardous substances, materials and wastes.

NOM-005-SCT/2000 Emergency preparedness information for transportation of hazardous substances, materials and wastes.

NOM-006-SCT2/2000 Basic aspects for daily visual inspection of units intended for trucking of hazardous materials and wastes.

NOM-007-SCT2/2002 Marking of containers and packaging intended for transportation of hazardous substances and wastes.

NOM-010-SCT2/2003 Compatibility and segregation provisions for storage and transportation of hazardous substances, materials and wastes.

NOM-011-SCT2/2003 Conditions for transportation of hazardous substances and materials in limited quantities.

PROY-NOM-161-SEMARNAT-2011 Establishing criteria for classifying special handling waste and determining which are subject to the management plan. Includes procedures for inclusions or exclusions, and elements and procedures for the development of management plans.