



# HOW TO DEVELOP A WASTE MANAGEMENT PROGRAM

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## INTRODUCTION

Developing a hazardous waste management program doesn't require an extensive background in environmental engineering. For the most part the key requirements are: ORGANIZATION, AWARENESS, and the right WASTE MANAGEMENT COMPANY. It begins with analyzing your needs, developing the system and finally introducing your program.

Recognize that each facility you deal with or even each building that you deal with may have very different needs. These needs may not only be with respect to what the various personnel view as their needs but also the physical building requirements.

Consider that it is easiest to develop and implement a system when the starting point is a clean slate. With this in mind it may be advantageous to begin reviewing your facilities, using the following guidelines to develop your Waste Management program.

## CLEANING HOUSE

Where to start? The first step has already been made - deciding that a Hazardous Waste Management Program must be developed. Beginning this process from a clean slate can serve several purposes:

- each building, area of the plant or facility or even new operation once cleaned will be more likely to stay that way.
- include everyone...people are more receptive to the introduction of new programs when they are involved in the beginning and more open to the change when there are no visible signs of the 'old way'.
- cleaning house makes a clear statement about management's intent and commitment in the area of hazardous waste.
- the process of cleaning house will involve the identification of the accumulated waste. This process will be a source of information from which to base the development of the waste management program.
- cleaning house will reveal practices which may highlight opportunities for improvement or set examples which could be used as benchmarks to measure improvement.

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# WASTE MANAGEMENT PROGRAM

## The Waste Management Program

What's next? There are several things to think about when developing a hazardous waste management program.



# HOW DOES THE PROGRAM WORK?

Waste management is actually a microsystem of three basic areas repeated throughout the disposal process.

These areas are:

1. Identification and Segregation
2. Collection and Storage
3. Transport

This microsystem is incorporated into each phase of the waste management program from generation to storage to final disposal.

A primary contact is established at the generating site to provide a link to Tri-Arrow. This person is responsible for coordinating all waste movements within the facility contacting Tri-Arrow for the scheduling of pickup's, coding of new waste streams into Tri-Arrow and possibly the issuance of purchase order numbers for each pickup.

## Point of Generation

### 1. Identification and Segregation:

At each point where waste is generated, the waste should be analyzed as to what makes this material a waste, and can it be reused anywhere else in the plant. Once this has been done then steps can be taken to review the volumes generated and their frequency as well as any steps which could be taken to reduce the amount of waste being generated. A labelling system should be implemented to identify and separate the waste material from other virgin product. Labelling should include: chemical name of material, person generating waste, date of generation and possible area of facility in which the material was generated. New waste streams/wastes should be explained in detail to the program coordinator.

### 2. Collection and Storage:

At the point of generation, an area should be set aside in which waste may be collected and temporarily stored. This will reduce the chance of errantly contaminating good product with waste material. This waste storage area could be part of a fume-hood in a lab, a hazardous waste vented flammables cabinet or simply a clearly labelled area for a drum or two.

### 3. Transport:

Transfer of waste containers from the generation point to a central storage area should be performed during times when there is a minimum of traffic within the facility. There is a wide variety of carrying and holding containers available depending upon the material in need of storage or transfer.

### 4. Central Storage Area:

#### 1. Identification and segregation:

- waste containers should be clearly labelled and placed in their designated location within the central storage area.
- All materials should be stored in compatibility groups such that if two containers were to become damaged, leak and the contents were to mix, there would not be a reaction of the chemicals causing hazardous vapours, fire, heat or any uncontrolled reaction.

#### 2. Collection and storage:

- the storage area should have some basic features such as: good ventilation, have secured access, be self contained with respect to any possible leakage
- the storage area may have grounding straps for some materials being bulked
- an eye wash station and possibly an emergency shower.

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- Other features may be added dependent upon the materials being stored and/or bulked in this area and in accordance with local, provincial and federal requirements.
- On a regular basis, the central collection area should be checked for leaks or hazardous vapour build up.

### **3. Transport:**

- Tri-Arrow's trained service crews will come to the facility where, dependent upon the material and container less than 5 gallons
- These items will be checked for transport to a Tri-Arrow transfer station.
- Drummed waste will be checked for container integrity, the contents verified, labelled in accordance with the Transport of Dangerous Goods Act, the manifest completed and waste loaded for transport.
- Certain shock sensitive, reactive, organic oxidizers or gas cylinders may be handled on a per situation basis. However, special safety, packaging and shipping restrictions will apply.

### **Disposal Process**

Lab packs are received at a Tri-Arrow transfer station where they are unpacked and the materials are bulked for storage until transported for final disposal. Inorganic materials are neutralized and fixated suitable for landfill at Tri-Arrow's secure chemical landfill. Suitable liquids are blended and bulked for incineration in one of Tri-Arrow's waste incinerators. Some sludges, chlorinated liquids and flammable solids may be bulked and transported to a Tri-Arrow approved facility for final disposal.

Waste received at a Tri-Arrow facility passes through the same microsystem as previously described.

#### **4. Identification and Segregation:**

In the case of drummed waste or tanker volumes, this waste is sampled and analyzed to verify the material corresponds to its respective code sheet.

#### **5. Collection and Storage:**

Waste is bulked into large storage tanks or drum groups in preparation for possible treatment prior to transport and final disposal.

#### **6. Transport and Disposal:**

Waste is then taken by vacuum tanker or drum trailer from the receiving transfer station to the final disposal facility where it then passes through the same microsystem on its way to final disposal.

## **NEXT STEPS**

Upon final agreement of procedures and waste handling, an introduction seminar can be held for all relevant personnel.

The agenda for this meeting might include the following:

- provincial regulations
  - What are they?
  - How do they pertain to your specific wastes
- Waste management program introduction
- Agreement on an schedule for implementing the program
- A discussion on the roles of all parties in maintaining the program
- Who is Tri-Arrow and what do they do? (Please contact: Herb Locke, P.Eng; Toll Free #: 1-877-579-9988)
- Open forum, question/answer period