

## Elements in a Waste Management plan

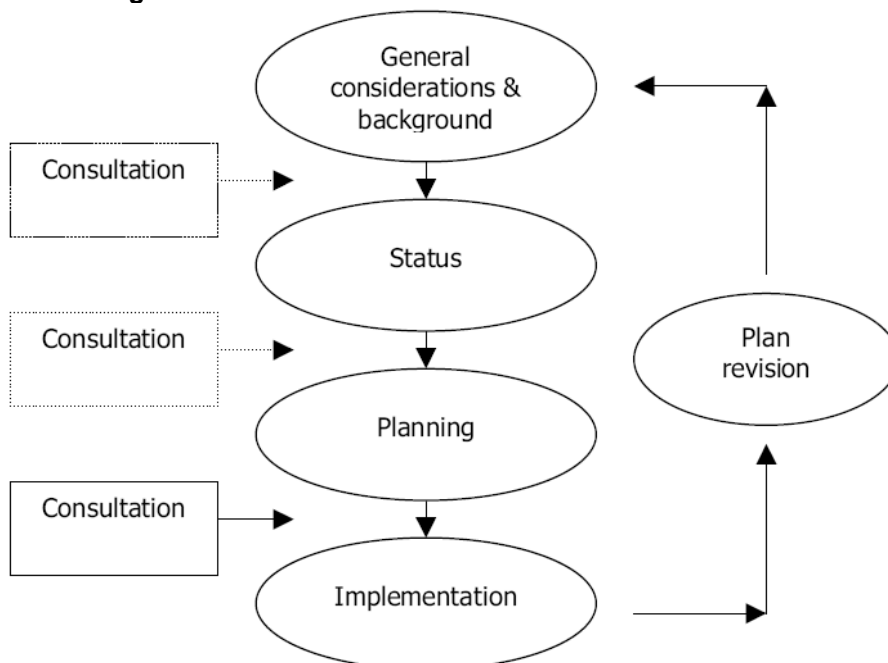
### 1. Background/Introduction

- 1.1. Site Description
- 1.2. Guiding Principles
  - 1.2.1. Overall waste problematics
  - 1.2.2. National Legislation
  - 1.2.3. Provincial Legislation
  - 1.2.4. Municipal Legislation
  - 1.2.5. Description of national waste policy and prevailing principles
  - 1.2.6. Description of objectives set up in specific areas
- 1.3. Inputs from the consultation process

### 2. Status

- 2.1. Risk Assessment
- 2.2. Waste identification, e.g.
  - 2.2.1. waste streams
  - 2.2.2. waste sources
  - 2.2.3. waste management options
- 2.3. Waste classification
- 2.4. Waste separation
- 2.5. Waste collection and treatment
- 2.6. Economy and financing
- 2.7. Assessment of previous objectives
- 2.8. Waste transfer
- 2.9. Waste Storage and Labelling
- 2.10. Waste Collection, Monitoring, Measurement and Reporting
- 2.11. Waste Disposal
- 2.12. Waste Contracts
- 2.13. Waste Documentation
- 2.14. Waste Inspections and Audits
- 2.15. Non conformances, Corrective and Preventative Action

### 3. Planning



- 3.1. Assumptions for planning
- 3.2. Determination of objectives and targets, e.g. for
  - 3.2.1. waste streams
  - 3.2.2. waste sources
  - 3.2.3. waste management options
- 3.3. Plan of action, including measures for achieving objectives

- 3.3.1.collection systems
- 3.3.2.waste management facilities
- 3.3.3.responsibilities
- 3.3.4.economy and financing

**4. Implementation**

- 4.1. Operational Control
- 4.2. Work instructions
- 4.3. Capital Projects (Management Improvement Plans)
- 4.4. Training and Awareness
- 4.5. Emergency Preparedness and Response

<b>Waste Stream</b>	<b>Sources</b>	<b>Notes</b>	<b>Typical disposal or recycling options</b>
<i>General Domestic Waste</i>	General office bins stored inside the office areas and kitchens.	Paper and hazardous office waste to be removed. (Except where such extensive separation is not practical due to the unavailability of waste recyclers and the remoteness of the site)	Disposal to Municipal General Landfill
<i>Used PPE</i>	Stores	Used PPE may be disposed off as general waste, unless it was used in Supervised nuclear areas. PPE must be dismantled or cut up to prevent it from being used again.	Disposal to Municipal General Landfill
<i>Office and Administrative Paper Waste</i>	Each office building will have a labeled bin for office paper waste. The paper waste will be recycled.	Ensure that paper waste is not contaminated with oil or chemicals.	Recycled
<i>Boiler Ash</i>	Boilers	Delisting process	Depending on classification: may be landfilled to general or hazardous landfill or given/sold to contractors.
<i>Scrap metal</i>	Maintenance department	All scrap metal will be inspected for contamination by process scale and, if clean, stored in a designated area and be. Scrap metal must be decontaminated from scale and/or oil prior to being issued to scrap metal dealers. All oil and paint drums and cans must be drained of all oil and paint.	Given/sold to a scrap metal recycler if not contaminated.
<i>Fluorescent Tubes</i>	Maintenance department	All waste fluorescent tubes will be crushed manually, ensuring that no escape of the dust from the tubes takes place. This drum will be sealed with a tight fitting lid so that no dust may escape during transport.	Landfilled to H:H landfill
<i>Oils</i>	Maintenance Department	To be stored in non-leaking sealed drums.	Recycled or re-used by Approved waste handlers.
<i>Medical waste</i>	Clinics or First Aid Stations	All medical waste generated by first aiders will be handled in	This waste shall be removed by an

<b>Waste Stream</b>	<b>Sources</b>	<b>Notes</b>	<b>Typical disposal or recycling options</b>
		accordance with the Procedure for Handling of Blood. All sharps and other surgical blades used at the clinic shall be disposed of by the sister, into the dedicated sharps bin in the clinic.	approved medical waste contractor for incineration.
<i>Vegetation</i>	Grass cutting, leaves, branches.		Removed and delivered to the appropriate general waste disposal site in the absence of specific garden refuse sites. Or recycled to composters.
<i>Hazardous Maintenance Waste</i>	Maintenance Department	Batteries, Contaminated oil drums and tins, oily rags and contaminated sawdust/absorbent material. Normal amounts of empty pen cartridges, white board markers, tipex, photocopy toner units, inks to be disposed of in general waste.	Class H:h landfill.
<i>Cooking oil</i>	Kitchens	No rancid oils shall be used in the making of any food substances.	Class H:h landfill. NOT to sewer or stormwater.
<i>Building rubble (when required)</i>	Maintenance Department	Building rubble has been removed from the exclusions of hazardous waste and has to be classified prior to disposal. Use of building rubble as fill material is prohibited.	Depending on classification.
<i>Asbestos waste</i>	Maintenance Department	All asbestos waste is to be stored and disposed of according to the Asbestos Regulations as per the Occupational Health and Safety Act 85 of 1993. Broken asbestos sheeting is to be replaced with non asbestos material.	Placed into double-lined plastic bags, labelled as "Asbestos Waste" and disposed of to a general landfill permitted to receive asbestos waste.
<b>Site specific hazardous waste streams</b>			
<i>Chemical Bags and other chemical containers</i>	Process areas	Containers of chemicals are classified according to the chemicals which they contained.	Depending on the classification. Where possible bags and containers are recycled to the supplier.

<b>Waste Stream</b>	<b>Sources</b>	<b>Notes</b>	<b>Typical disposal or recycling options</b>
<i>Laboratory wastes (including containers)</i>	Laboratories	Laboratory waste is to be classified as Class 9 (Miscellaneous waste), unless the containers can be decontaminated and returned to the supplier.	Hazardous waste (H:H landfill) OR returned to supplier if decontaminated.
<i>Process wastes</i>	Process operations	To be identified and classified respectively	Depends on the classification. Process waste is recycled to the process in most cases.

## **1. Waste Collection, Monitoring and Reporting**

- 1.1. A suitable trained competent person shall supervise the collection of waste from site by approved waste collection companies and/or the Municipality to ensure that this material is transported in accordance with the Procedure and shall use the site's Loading Checklist for Dangerous Goods.
- 1.2. The Waste collection and data input procedure is therefore as follows:
  - (a) The waste skip is placed on site by the contractor.
  - (b) When the waste skip or other container (such as a sump) is full, the authorised person shall inspect the waste container for cross-contamination. If the waste stream is satisfied with the waste consistency, than authorised person shall notify the SHEQ team who shall notify the waste contractor is notified and set a date for collection of the waste.
  - (c) Upon arrival at the site, the replacement skip/tanker and vehicle of the waste contractor is inspected by security or the SHEQ team for rusting, leaks and/or prior contamination prior to them being allowed on site. If security is doubtful as to the integrity of the skip, then the SHEQ team shall be contacted to resolve the matter.
  - (d) The truck is weighed (with the empty replacement container) at the weighbridge.
  - (e) Security directs the contractor to the waste and shall notify one of the authorised persons who shall receive the contractor, check and supervise the loading operation (in terms of the Procedure: Handling, Storage and Transport of Dangerous Goods). Any problems or irregularities are to be reported to the SHEQ team before the truck leaves the site.
  - (f) The waste is collected by the contractor and replacement skip placed in the correct location (if required).
  - (g) The waste manifest document is signed by the driver of the truck and the authorised person.
  - (h) The truck is weighed on the weighbridge and departs.
  - (i) Both the weighbills and the Waste Manifest document are delivered to the SHEQ team who shall enter the data into the details of the waste load into the Waste register

- (j) At the end of each month, the SHEQ team shall staple all the matching Waste Manifest documents (both copies) and weighbills (both copies) **FOR EACH LOAD** to the corresponding Safe Disposal Certificate. The Waste Manifest Documents shall be inspected to check that the information thereon corresponds with the information for that waste stream on the Waste Classification Report, and that the weighbills reflect the same mass of waste (to a maximum discrepancy of 1% to allow for moisture losses, if applicable). Any missing data or discrepancies shall be raised as a non-conformance.

## **2. Waste Contracts**

2.1. The contract with the Waste Disposal company shall specify that:

- Any skips not approved by security or the SHEQ team shall be replaced at the cost of the contractor, and
- The contractor shall comply with the provisions of GN R 1179 (of the OHS Act), in particular regulation 15, which states that all vehicles, re-usable containers and covers which have been in contact with hazardous chemical waste are cleaned and decontaminated after use in such a way that the vehicles, containers or covers do not cause a hazard to the environment, the staff and the waste contractor as well as the public (i.e. during transport).

2.2. If waste is to be removed in a skip or other open container, by vehicle, the designated person should ensure that this has a lid or an attachable cover, to prevent the contents from spilling or generating dust or litter during transit.

2.3. It shall be the duty of the SHEQ team to ensure that the waste contractor is informed in writing of the nature and classification of the waste which is to be disposed according to the following conditions:

- (a) If the waste streams change; or
- (b) If the nature of the waste streams change in such a way that the classification may be altered; or
- (c) At least annually.

The contractor in turn must also agree in writing to accept such material and state the methods of treatment and disposal of each waste stream.

## **3. Waste contractor audits**

3.1.1. The Environmental Manager shall request all waste contractors to provide proof of audit results on an annual basis.

3.1.2. The audits should have consisted of reviewing the operational practice of the contractor/supplier against any permits, DWAF's Minimum Requirements and any applicable SANS codes for the handling of dangerous goods.

3.1.3. These audits results shall be used in the Management Review and Legal Compliance Audits.

## **4. Waste Documentation**

4.1.1. The Environmental Manager will maintain the following waste documentation:

- (a) Waste Register which describes a summary of all the waste streams generated on site and their classifications.

- (b) The Waste Disposal Documents generated by the waste disposal contractors, shall consist of the following:
  - 1. **Waste Manifest Document:** Signed by the Driver and the authorised person upon collection of a full skip from the site.
  - 2. **Weighbill:** Generated at site upon departure of the waste giving the net weight of the waste (i.e. having the empty truck (with empty replacement container) and the full truck.
  - 3. **Waste Manifest Document:** Mailed monthly by the contractor with the signature of the Waste Facility's Manager.
  - 4. **Safe Disposal Certificates:** mailed monthly by the Disposal or Treatment facility stating that all material is treated and/or disposed of at permitted sites in accordance with Minimum Requirements.
  - 5. **Weighbill(disposal site):** This are provided by the weighbridge at the Waste Disposal Site and are mailed with the copies of the Waste Manifest Documents.
- (c) Copies of the permits held by the waste receiving sites;
- (d) Results of 2nd party audits;
- (e) Contracts with the Waste Contractors, and
- (f) Waste Classification Reports.

## 5. **Authorised Persons**

- 5.1. The SHEQ team shall ensure that staff have been identified to oversee the following:
  - (a) Signing of the Waste Manifest Documents prior to waste being removed from site by the Waste Contractors;
  - (b) Inspecting the waste skips before removal and at other times for correct waste separation;
  - (c) Maintaining the waste records for the waste storage areas;
- 5.2. These persons shall receive training in this procedure.