



Lonmin Platinum

Process Division

General and Hazardous Waste Management



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REVIEW AND APPROVAL SIGNATURE RECORD

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RECORD OF REVISION

REVISION NO.	DESCRIPTION	DATE
16	Reviewed Management of Salvageable Waste	Oct 2013
17	Addition of PMR requirements	Nov 2013
18	Addition of Waste Management By-Law (Rustenburg Municipality)	Jan 2014
19	Addition of Ekurhuleni, Madibeng and Rustenburg Waste By-Laws as well as addition of Changes to National Legislation (Norms and Standards for the storage of waste, Waste Classification and Management Regulations, List of Waste Management Activities that have, or are likely to have, a detrimental effect on the environment; National Norms and Standards for the assessment of waste for landfill disposal	July 2014

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SCOPE

This procedure includes the sorting, storage, handling, transportation, recycling and disposal of hazardous and general wastes generated from all activities, products and services of Process Division.

PURPOSE

This procedure serves to provide guidance to all Process Division employees on the management of hazardous and non-hazardous (general) wastes to ensure all wastes are responsibly handled, contained, controlled, recycled and / or disposed of at all operations.

DEFINITIONS & ABBREVIATIONS

TERM	DESCRIPTION
Hazardous waste	Section 1 of the National Environmental Management: Waste Act, 2008 defines Hazardous Waste: means any waste that contains organic or inorganic elements or compounds that may, owing to the inherent physical, chemical or toxicological characteristics of that waste, have a detrimental impact on health and the environment;
AIA	Approved Inspection Authority
ASH	Andrew Saffy Hospital
BMR	Base Metal Refinery
Building and demolition waste	Section 1 of the National Environmental Management: Waste Act, 2008 defines building and demolition waste: means waste, excluding hazardous waste, produced during the construction, alteration, repair or demolition of any structure, and includes rubble, earth, rock and wood displaced during that construction, alteration, repair or demolition
Business Waste	Section 1 of the National Environmental Management: Waste Act, 2008 defines Business Waste: means waste that emanates from premises that are used wholly or mainly for commercial, retail, wholesale, entertainment or government administration purposes;
Domestic Waste	Section 1 of the National Environmental Management: Waste Act, 2008 defines Domestic Waste: means waste, excluding hazardous waste, that emanates from premises that are used wholly or mainly for residential, educational, health care, sport or recreation purposes;
General Waste	Section 1 of the National Environmental Management: Waste Act, 2008 defines General Waste: means waste that does not pose an immediate hazard or threat to health or to the environment, and includes— (a) domestic waste;

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TERM	DESCRIPTION
	(b) building and demolition waste; (c) business waste: and (d) inert waste;
HAZMAT	Hazardous Materials Substances
<i>Health Care Risk Waste</i>	<i>Means that portion of health care waste which is hazardous and includes infectious waste, pathological waste, genotoxic waste, chemical waste, waste containing heavy metals, radioactive waste, and any other waste which is considered hazardous in terms of the Waste Management Series: Document 1: Minimum requirements for the handling, classification and disposal of Hazardous Waste, 2nd edition as published by the Department of Water Affairs and Forestry</i>
Inert Waste	Section 1 of the National Environmental Management: Waste Act, 2008 defines Inert Waste: means waste that— (a) does not undergo any significant physical, chemical or biological transformation after disposal; (b) does not burn, react physically or chemically biodegrade or otherwise adversely affect any other matter or environment with which it may come into contact; and (c) does not impact negatively on the environment, because of its pollutant content and because the toxicity of its leachate is insignificant;
MSDS	Material Safety Data Sheet
PMR	Precious Metals Refinery
PPE	Personal Protective Equipment
PVC	A synthetic thermoplastic material made by polymerizing vinyl chloride. The properties depend on the added plasticizer. Rigid PVC is used for moulded articles
SBS	Shared Business Services
SFP	Sulphur Fixation plant
SHEQ	Safety, Health, Environment and Quality
SHEQMS	Safety Health Environment and Quality Management System

RESPONSIBILITIES

POSITION TITLE	ROLE / DESCRIPTION OF TASK
SHEQ Department	Compliance awareness, auditing <i>and development of training material</i>
Departmental heads	Communicate the procedure to employees and enforce it.
All employees	Waste sorting according to this procedure <i>and undergo Waste Training.</i>

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PROCEDURE

1. Waste Generation

The waste sorting and management of waste streams remains the responsibility and accountability of the waste generator. Waste generators shall comply with the following requirements:

- Damaged drums and wheelie bins will be replaced.
- All hazardous waste containers will remain closed when not being loaded with waste. Standardized signs will be displayed and will be visible. Wheelie bins, waste drums, plastic bags will be labeled as per *PD_OPG_076* - Waste Signage PMR / *PD_OPG_023* - Waste Signage Marikana.
- The waste temporary storage area (general and hazardous) must be cemented

The waste contractors will not remove waste from a site if the waste is not sorted as per this procedure. The objective of sorting is to ensure:

- the segregation of hazardous waste from general waste
- the responsible transportation and disposal of all waste types (SANS 10228:2012)
- reduce generation of waste and the costs associated therewith.
- the optimisation, re-use, or recycling of wastes

2. PPE to be used with Handling Waste

Personnel involved in the handling, sorting and disposing of waste must wear the correct PPE at all times. For example:

- Gloves and dust masks must be worn by personnel sorting general waste.
- Hazardous waste, especially chemical waste, may require acid resistant overalls, acid resistant gloves, dust mask, safety glasses and if necessary a gas mask. *FFP3 dust masks, PVC gloves and standardised plant PPE must be worn when crushing fluorescent tubes.*

3. Fluorescent Tubes

Fluorescent tubes must be disposed of in the designated fluorescent tube drums. The fluorescent tube must be placed in the chute on top of the drum. The chute must be closed with the lid and the handle on the drum turned to crush the tube. The fluorescent tube drum must be sealed at the point where the crusher is attached to the lid and the lid of the drum must also be sealed. Drums must be sealed before they are taken away for disposal by the relevant hazardous waste service provider. Drums must be replaced (can be obtained from the Lonmin salvage yard in Marikana or ordered

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from the stores at PMR). Gasses released from fluorescent tubes are carcinogenic; therefore special precaution should be taken to prevent inhalation of these fumes. Mercury bulbs are to be placed in a clean 210L drum as per relevant colour coding. Care must be taken to prevent the mercury bulbs from breaking when they are disposed in the drums.

4. Asbestos Waste

Asbestos has been identified and has been listed in an asbestos inventory. Future arising asbestos waste must be placed in containers that will prevent the likelihood of exposure during handling. All containers or articles that have been in contact with asbestos must be cleaned and decontaminated after use. Asbestos waste must be disposed of in double plastic bags which is sealed, thereafter the bags will be stored in a safe place (roofed, cemented and dry area separated from other hazardous waste/materials) until the relevant waste service provider has collected it for disposal. All personnel collecting, handling, transporting and disposing of asbestos waste should wear the correct PPE including gloves, dust masks (FF^{P3})/ respirators and safety glasses.

5. Explosive Waste Management

In terms of regulation 3.4.2 and 3.9 of the Explosives Act Regulations, permission has been granted to Lonmin Platinum Marikana to dispose of fuses and detonators at Chicane who collects this waste from the concentrators. See [PD_OPG_051](#) - Handling of Explosive Wastes.

6. Disposal of Computer Hardware

Computer hardware is collected by Lonmin Information Management team for disposal by a competent, external contractor.

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7. Disposal of Radioactive Waste

Radioactive waste is to be disposed of to a radioactive waste disposal facility. Safe disposal certificates must be kept for all sources disposed.

8. Electronic waste

All electronic waste (excluding computer hardware) must be disposed of in the designated *bins* provided. The waste collection contractor will empty the wheelie bin on site and remove the electronic waste to the salvage yard where it will be recycled. Waste contractor must not remove the plant wheelie bins from the site.

9. First Aid Medical Waste

Medical waste could be generated during the treatment of injuries on site. This waste must be placed in waste bags, which will be transported to the relevant medical facility (ASM at Marikana and PMR medical centers) where it will be placed inside a bio hazardous receptacle that is appropriately labeled. All medical waste should be treated with a cautionary approach and personnel handling this waste shall wear the appropriate PPE.

Health Care Waste at the PMR must be managed according to the following requirements

- *Generators, transporters and disposers must register and obtain written approval with the Council*
- *Minimize generation of Health Care Risk Waste*
- *Separate health care waste into health care risk waste and health care general waste at point of generation.*
- *Red and yellow sharps containers for needles, must be made up of materials that cannot be pierced. The container must be fitted with a safe and hygienic lid, which must be sealed after use.*
- *Cardboard container with red plastic liner marked as bio- hazardous for medical waste.*
- *All employees are to be trained in the identification, separation, handling, storing of health care risk waste*
- *All health care risk containers are to be labeled with the following information:*
 - *Name, address and contact telephone number of the generator*

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- *The words: DANGER; HEALTH CARE RISK WASTE; GEVAAR – GESONDHEIDSAFVAL, and INGOZI:INKUNKUMA YEZAMAYEZA and the international bio-hazard logo*
- *The date on which the health care risk waste is removed from the premises of the generator.*
- *Prevent public access to the health care risk waste containers.*
- *Store filled health care risk waste containers in controlled, secure areas which are reserved for the storage of health care risk waste*
- *Make arrangements for the removal of health care risk waste from the PMR's premises by a registered transporter of health care risk waste (Compass)*
- *Disposal of health care risk waste by a company permitted to do so (Compass)*
- *Maintain an up-to-date written record of all health care risk waste generated and removed from the PMR.*
- *Obtain records of safe disposal of health care risk waste at a permitted landfill site.*
- *Provide records of the safe disposal certificates on a six-monthly basis to the Council.*

Compass will be audited according to legal requirements including those set out in the sections on Transporters and Disposal in the Ekurhuleni Health Care Waste By-Laws (2004).

10. Special Industrial, hazardous, medical and infectious refuse (Applicable to PMR)

- *The PMR must inform the Council of the composition, quantity, method of storage, proposed duration of storage and manner of removal of Industrial, Hazardous and Infectious waste.*
- *Analysis of such waste must accompany the notification.*
- *The Council must be notified of any changes in the composition of the waste generated.*
- *This waste must be stored in a manner to ensure that it will not become a nuisance, safety hazard or pollute the environment.*
- *This waste must be removed within a reasonable time.*
- *This waste must be stored in a container approved by the Council*
- *Written approval must be obtained from the Council for the company removing such waste from the premises.*

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11. Contaminated PPE

Contaminated PPE (gloves, welding aprons, damaged hard hats etc.) are treated as hazardous waste.

12. Materials Containing PCB's

Materials containing PCB's shall be handled and disposed of as per the requirements below (SANS290)

Any dielectric fluid of unknown PCB concentration shall be assumed to be a PCB item and shall be stored in a container which shall be:

- labelled
- may not leak or distort when filled with PCB contaminated material
- the container shall not be filled to capacity, but shall allow for sufficient room for expansion of the transformer oil under abnormal conditions (temperatures higher than 55 °C)

All transformer oils containing PCB's shall be stored separately in the hazardous temporary waste storage area. PCB waste shall be classified for transport purposes in accordance with SANS 10228 and the packaging shall comply with the requirements of SANS 10229-1.

13. Building Waste

- Building waste must be stored separately from all other waste types
- Building waste may be temporarily stored on soil in designated areas, provided that there is no contamination or other wastes stored with the building rubble. The number of designated areas for temporary storage of building rubble must be limited per plant/area.
- *Building rubble may not be stored for a period exceeding 7 days after completion of a project.*
- The land or premises on which building waste is generated may not become unsightly or a source of nuisance as a result of accumulation of building waste or dust.
- *Building rubble shall be disposed of at a reputable landfill site (Mooinooi Landfill site or Municipal Landfill site).*

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- *Building rubble that is to be used for reclamation of land can be deposited at a place other than a reputable landfill site, provided written consent is obtained from the Municipality / Council (applicable to Madibeng and Ekurhuleni)*
- *Building rubble may not be dumped on sidewalks, roads, parks, public places or any other place not designated for waste disposal.*
- *Proof of safe disposal to be made available for submission to the Council (only applicable to PMR)*
- *The PMR may only make use of a person authorised by the Council to remove building refuse.*

14. Garden Refuse

- *Garden refuse is to be disposed of within a reasonable time after the generation thereof.*
- *Garden refuse must be disposed of at a site designated therefore (Mooinooi Landfill Site or one designated by the Municipality)*
- *Garden refuse may not be dumped on sidewalks, roads, parks, public places or any other place not designated for waste disposal.*
- *Proof of safe disposal to be made available for submission to the Council (only applicable to PMR)*
- *The PMR may only make use of a person authorised by the Council to remove garden refuse.*

15. Security

15.1 Smelter

The storage area will be locked and keys will be kept by Security who will always be available at the Matte yard at telephone 014 571 3429 (Mill & Leach Control Room). Security personnel will accompany all persons entering the hazardous waste storage area. The gate will only be opened after inspection of waste. Bins will be removed by a certified hazardous waste contractor, Interwaste / Enviroserv, and will be escorted to the main gate by Smelter security. Waste containers must be intact and lids closed/covered.

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15.2 BMR

Bins are emptied on a daily basis and waste bags are taken to the airlock where Security officers have to search through the bags. Security officers search these waste bags manually. A separate hazardous waste bin is provided for broken glass at the Laboratory because it creates a safety hazard for security personnel when mixed with general waste.

After leaving the airlock the waste bags are removed by the Production team to the different waste telecon bins at the central waste facility area. If waste has to be sorted, appropriate PPE must be used e.g. gloves and dust masks.

15.3 PMR

Management and control of the Waste Management Centre (WMC) remains the responsibility of the Security Superintendent. No person is allowed to enter the area and remove any item without permission of the Security Superintendent. Security standards shall be adhered to at all times. No waste material will enter the Freight Centre after normal working hours or on weekends except by prior arrangement. Only waste will be stored at the Skip Area. The generator is responsible to separate all scrap before it will be collected by the Waste Collectors to be transported to the Freight Centre, if waste is not separated correctly it will not be removed. The person sealing the waste bag in the plant will conduct a visual check to ensure no PGM's are discarded into the waste bag / bin. The person sealing the bag should capture the seal number, as well as his own details in the Seal Register. The seal is an indication that the bag is full, a visual check has been conducted and is ready for collection. If not sorted according to procedure, an environmental incident will be raised. Mop heads and filter cloths from Level 2 (core production plants) must be separated from other contaminated waste, and sealed in a separate waste bag as it is sent directly to MHD and not to the Freight Centre. Mop heads and filter cloths from Level 3 (outside / services) are separated and sent to the Freight Centre. All Level 2 waste is sent to the Central Plant Airlock (CPA) where it will go through a goods scanner in order to ensure the waste is PGM free. Should any PGM's be recovered from the waste a sample will be taken for analysis and depending on the size of the parcel, the rest will be returned to production. A security incident will be *raised*.

Security, in conjunction with the cleaners are responsible to remove all waste from the CPA to the Freight Centre via forklift. All Level 3 waste is also separated according to the various

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waste streams and transported to the Freight Centre via forklift. At the Freight Centre the waste will once again go through a goods scanner to ensure the waste is PGM free. As a return on investment items have been identified which could contain traces of PGM's. These are delivered to a Service Provider whereby the waste is reprocessed and the ash returned to the PMR. All waste streams identified as possible PGM waste containing waste, is stored within a dedicated storage area.

Items which cannot be washed out within the respective plants shall be escorted by a Security Official to the Freight Centre whereby these items must be decontaminated within the Decontamination Bay by the respective plant personnel under surveillance. The waste generated from the washing activities within the Decontamination Bay will be returned to the process, solid material is transferred to MHD and the liquor is pumped to RDD.

Items entering the Freight Centre should be of a reasonable size so that they can easily be decontaminated (if need be) and placed into the respective waste skip. If there is a need to dispose of items of a greater size, this will be done via prior arrangement with the Security Superintendent who will be responsible for safe disposal. Where possible all recycle material i.e. pvc, polypropylene pipe and lengths of steel, should *be* stockpiled for re-use where possible.

Disposal of hazardous waste i.e. H/F containers etc. will continue as is current practice. These containers shall be placed in clear plastic bag when empty; the bags are then sealed and taken directly to the hazardous waste bin for safe disposal. Under no circumstance must the cleaning of these containers be attempted.

16. Temporary Waste Storage Areas

Each site shall have waste storage bay/s, consisting of:

- A cement slab for the temporary storage of general waste skips. Hazardous waste skips will be fitted with a bund wall or an oil trap, which is designed to contain any spillage (except for the hazardous waste storage area at the PMR where potential spillages and storm water is contained in a closed system).

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- Standardized signs will be displayed and will be visible. Waste containers will be labeled and colour coded as per *PD_OPG_076* - Waste Signage PMR, *PD_OPG_023* - Waste Signage Marikana.
- Spill kits must be available at all areas where HAZMAT is stored or handled; if spills occur they must be cleaned up immediately by following the Spill Procedure – PD_ENV_003. All storage areas must be kept clean, neat and tidy.
- All waste is to be sorted correctly according to the waste signage displayed.
- Waste may not be burnt, except at an incinerator permitted to accept such waste.
- *Hazardous waste storage facility must have impermeable and chemical resistant floors (Only applicable to Smelter).*
- *Waste storage facilities must have a drainage and containment system to collect and store all runoff water arising from the storage facility in the event of a flood. The system must maintain a freeboard of 0.5m. All plant areas and waste storage areas at the Process Division drain into a storm water dam / system, where the freeboard is monitored on a regular basis (Only applicable to Smelter)*
- *Waste storage facilities must have effective access control. Access to the plant areas is controlled by security and fencing / walls.*
- *Legible, durable, weatherproof signs in at least 3 official languages applicable in the area must be displayed at each entrance to the facility (Only Applicable to the Smelter/BMR Complex). The signs must include the following:*
 - *Risks involved in entering the site*
 - *Hours of operation*
 - *The name*
 - *Address*
 - *Telephone number*
 - *The person responsible for the operation of the facility*
- *All Lonmin Employees have access to the hazardous waste storage facility as they have been trained in emergency response procedures.*
- *Waste storage facilities must be free from odour or emissions*
- *Waste storage facility must be operated within its design capacity and the waste storage container must not be overfilled.*

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- *Waste that is spilled or blown by wind during opening, handling or storage must be contained.*
- *Hazardous waste skips must be closed at all times except when waste is added or emptied*
- *Any container or storage impoundment holding waste must be labeled, or where labeling is not possible, records must be kept, reflecting the following:*
 - *Date on which waste was first placed in the container*
 - *Date of which waste was placed in the container for the last time when the container was filled, closed, sealed or covered.*
 - *Dates when, and quantities of, waste added and waste removed from containers or storage impoundments*
 - *The specific category or categories of waste in the container or storage impoundment as identified in terms of the National Waste Information Regulations 2012.*

16.1 New Waste Storage Facilities (Only Applicable to Smelter)

- *A new waste storage facility must be registered with the competent authority within 90 days prior to construction taking place*
- *The following must be taken into account for the location of a new waste storage facility:*
 - *Public health and environmental protection*
 - *Located in a manner that can provide optimum handling and transportation of waste material*
 - *Hazardous waste facilities must take into consideration the flammability and toxicity of waste stored*
 - *Areas must be accessible by emergency response personnel and equipment*
- *Construction and development of the waste storage facility must be carried out under the supervision of a registered professional engineer and must be in accordance with the approved civil engineering designs.*

16.2 Decommissioning of a waste storage facility (Only Applicable to Smelter)

- *When a waste storage site is discontinued, the site must be rehabilitated to the satisfaction of the relevant authority*
- *A rehabilitation plan as well as the end use of the area must be submitted to the DEA for approval not more than 1 year prior to the intended closure of the facility.*

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16.3 Storage of Liquid Hazardous Waste

Hazardous waste storage facility (as per the definition in the National Norms and Standards for the storage of waste) is only applicable to the PMR, however a Waste License was obtained for this facility prior to the promulgation of the Norms and Standards, therefore this facility will be assessed against the permit conditions until the License has expired.

17. Littering and dumping

- No person may litter or cause *the* littering of waste
- Littering includes:
 - Throwing, dropping or discarding of litter onto any place other than a place or container that has been specifically provided for that purpose
 - Sweeping of waste into an area other than a waste container
 - Removing litter from a container and causing the litter to be spilled.
- *Dumping*
 - *No person may abandon anything at a place not designated for waste disposal*
 - *A person who abandons anything at a place not designated for waste disposal will be liable to a fine or imprisonment.*
 - Waste may not be dumped / deposited upon any land (other than licensed landfill sites registered for the disposal of the particular waste type), sewer, storm water, drainage system or watercourse.

18. Landfill Facilities

18.1 Landfill Site Facility (General Wastes)

Marikana Operations' general waste will be disposed of at the Mooinooi landfill site and the PMR's general waste will be disposed of at the Weltevrede landfill site. Rietfontein Landfill site will be used for general waste disposal by both areas on occasion, when required.

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18.2 Landfill Site Facility (Hazardous Wastes)

Rosslyn, Holfontein or Rietfontein (FG) landfill sites will be utilised for the disposal of hazardous wastes. The site selection will be based on the *classification* of the waste to be disposed. High hazard wastes will be disposed of at the Holfontein landfill while low hazard and de-listed wastes will be disposed of at the Holfontein Landfill, Rietfontein (FG) or Olifantsfontein waste disposal facilities respectively.

Lonmin Plc. (Eastern Platinum Limited, Western Platinum Limited and Western Platinum Refinery) are registered hazardous waste generators. The transportation of waste will comply with the South African National Standard – SANS 10228: 2012.

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19. Waste Collection / Transportation

- All general and hazardous wastes to be collected by the relevant waste contractor. Salvageable items to be collected within 1-2 days by the salvage yard after a SAP notification has been generated by the relevant area where the items need to be collected. The relevant waste contractor is to ensure that the collection rate is adequate to prevent the containers from overflowing and subsequent littering (applicable to Marikana). Waste Manifest Documents will be issued to all business units where waste collection has taken place by both hazardous waste contractor, the general waste contractor, and any recycling contractor (applicable to Concentrators).
- All medical waste is to be collected as per agreement. Records of waste collected, by whom, when and quantities should be documented. Waste is to be collected when required. Refer to *the waste inventory* for waste classifications and disposal methods.
- Any waste that is accidentally spilled during transportation must be retrieved or cleaned up promptly.
- *No person will operate as a waste removal contractor unless written authority has been obtained from the Municipality (Applicable to Marikana).*
- *The PMR are required to obtain permission from the Council (Ekurhuleni) to make use of private companies to remove business, domestic waste, industrial and trade waste. The Council shall determine the type and frequency of such a service and permission shall be given thereof.*
- *Private contractors removing waste from the PMR premises shall register with the Council.*
- *Hazardous, medical or infectious refuse may only be transported in accordance with the requirements of the Council (type of vehicle, markings, safety procedures, hygiene, and documentation).*

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20. Hazardous Waste Classification (According To SANS 10228):

Hazardous waste will be classified by means of the SANS10228 requirements, as indicated below. The hazardous waste service provider will classify the hazardous waste generated on site by means of sampling and analysis. The waste class will be indicated on the safe disposal certificate as well as in the waste inventory for the site/s. The following hazardous classifications will be used (as per SANS10228)

Class 1: explosives

Class 2: gases

This class is subdivided as follows:

- a) **division 2.1:** flammable gasses;
- b) **division 2.2:** non-flammable, non-toxic gasses; and
- c) **division 2.3:** toxic gasses.

Class 3: flammable liquids

Class 4: flammable solids; substances liable to spontaneous combustion; substances that, on contact with water, emit flammable gases

This class is subdivided as follows:

- a) **division 4.1:** flammable solids, self-reactive substances and solid desensitized explosives;
- b) **division 4.2:** substances liable to spontaneous combustion; and
- c) **division 4.3:** substances that, on contact with water, emit flammable gases

Class 5: oxidizing substances and organic peroxides

This class is subdivided as follows:

- a) **division 5.1:** oxidizing substances; and
- b) **division 5.2:** organic peroxides

Class 6: toxic and infectious substances

This class is subdivided as follows:

- a) **division 6.1:** toxic substances; and

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b) **division 6.2:** infectious substances

Class 7: radioactive material

Class 8: corrosives

Class 9: miscellaneous dangerous substances and goods

Disposal Method

- AB 1:1 - Ash blend ratio 1:1
- AB 10:1 - Ash blend ratio 10:1
- TWA 1:1 - Trench with ash ratio 1:1
- TWSS + S - Treat with Sodium sulphate and sulfur
- T + Cl - Trench and cover immediately
- TWL - Trench with lime
- TWFS + L - Trench with ferrous sulphate and lime

The waste inventory is stored on the Lonmin network for each site and indicates the various waste streams generated by the Process Division as well as the classifications and disposal/re-use/recycling methodology.

**Waste Classifications will be conducted according to GNR 634 Waste Classification and Management Regulations as well as GNR 635 National Norms and Standards for the Assessment of Waste for Landfill Disposal Regulations of the National Environmental Management: Waste Act, No 59 of 2008) by August 2016.*

21. Record Keeping

21.1 Hazardous Waste

At the end of each month, the responsible hazardous waste removal contractor and the relevant responsible person at Lonmin will check the safe disposal certificates against the waste manifest documents to ensure Lonmin has received a safe disposal certificate for each

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manifest generated. This is done prior to billing for hazardous waste removed from site. Safe disposal certificates are stored with the responsible persons on site or on the Lonmin network.

Waste Manifest Documents:

- *Waste manifest documents must be completed for each consignment containing hazardous waste.*
- *Provide the information to the generator before the waste is transported from the premises of the generator*
- *Provide the information to the waste manager at the time of delivery of the waste to the facility for a waste management activity.*

Waste Manifest Documents should comply with Annexure 2: Waste Manifest System Information Requirements of GN 634 Waste Classification and Management Regulations of the National Environmental Management: Waste Act No. 59 of 2008.

21.2 Landfill Site / General Waste

The following records are to be maintained by the general waste contractor at the Mooinooi Landfill site (only applicable to Marikana):

- All waste entering into the site, in terms of quantity, and origin of waste. Copies maintained with *Group Environment*.

Applicable to the PMR: The PMR general waste weighbridge tickets are consolidated on a monthly basis. *Private waste contractors are to submit proof of safe disposal at an approved landfill site to the Council on a monthly basis.*

Waste generators must keep accurate and up to date records of the management of the waste they generate. Records must reflect:

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- Classification of wastes (refer to the Waste Inventories)
- Quantity of each waste generated (tons or m3 per month) – Monthly Environmental Summaries
- Quantities of each waste that has either been re-used, recycled, recovered, treated or disposed of – Monthly Environmental Summaries
- By whom the waste was managed – Safe Disposals / Manifest Documents

Records are to be maintained by waste generators, transporters and managers for a period of 5 Years and make the documentation available to the Department upon request.

22. Waste Information Systems

The Waste Manager at Group Environment is responsible for uploading waste information onto the South African Waste Information System.

23. Waste Activities Triggering Environmental Authorizations:

Should you wish to undertake any one or combination of the following activities, the Management of Change Process must be followed and depending on the criteria an environmental authorization obtained **before** such an activity may commence.

- I. Recycling and recovery of waste (General and Hazardous Waste)
- II. Treatment of Waste (General and Hazardous Waste)
- III. Construction, expansion or decommissioning of facilities and associated structures and infrastructure for I and II.

24. Training

- Training must be provided continuously to all employees working with waste and to all contract workers what might be exposed to the waste
- Training records will be kept by the Training Department.

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25. Emergency Preparedness Plan

The emergency preparedness plan for the waste storage facilities will be dealt with as per PD_SHEQ_SYS_011 - Emergency Preparedness and Response.

26. Monitoring and Inspection (Only Applicable to Smelter)

- Containers, tanks, valves and piping containing hazardous waste must be inspected for leaks, structural integrity and any sign of deterioration on a weekly basis.*
- Impermeability of the bund wall and the bund wall floor of a hazardous waste storage facility is to be inspected once per annum.*
- The secondary containment system must be examined at least weekly or after each significant precipitation event to ensure that the containment is free of debris, rainwater and other materials that would compromise the capacity and integrity of the system.*
- Inspection must include the review of the adequacy and accessibility of spill response equipment*
- If environmental pollution is suspected or is occurring from the waste storage facility, an investigation must be initiated into the cause of the problem or suspected problem and remedial action taken. This will be dealt with as per the PD_SHEQ_SYS_014 - Non Conformity Corrective and Preventive Action.*

27. Auditing (Only Applicable to Smelter)

- Internal audits will be conducted bi-annually and an official report must be compiled to report the findings of the audits. These audit reports will be made available to the external auditor.*
- External audits will be undertaken by an independent external auditor appointed to audit the waste storage facility. These audits will take place every two years. The audit report will be submitted to the relevant authority within 30 days from the date on which the external auditor finalized the audit.*

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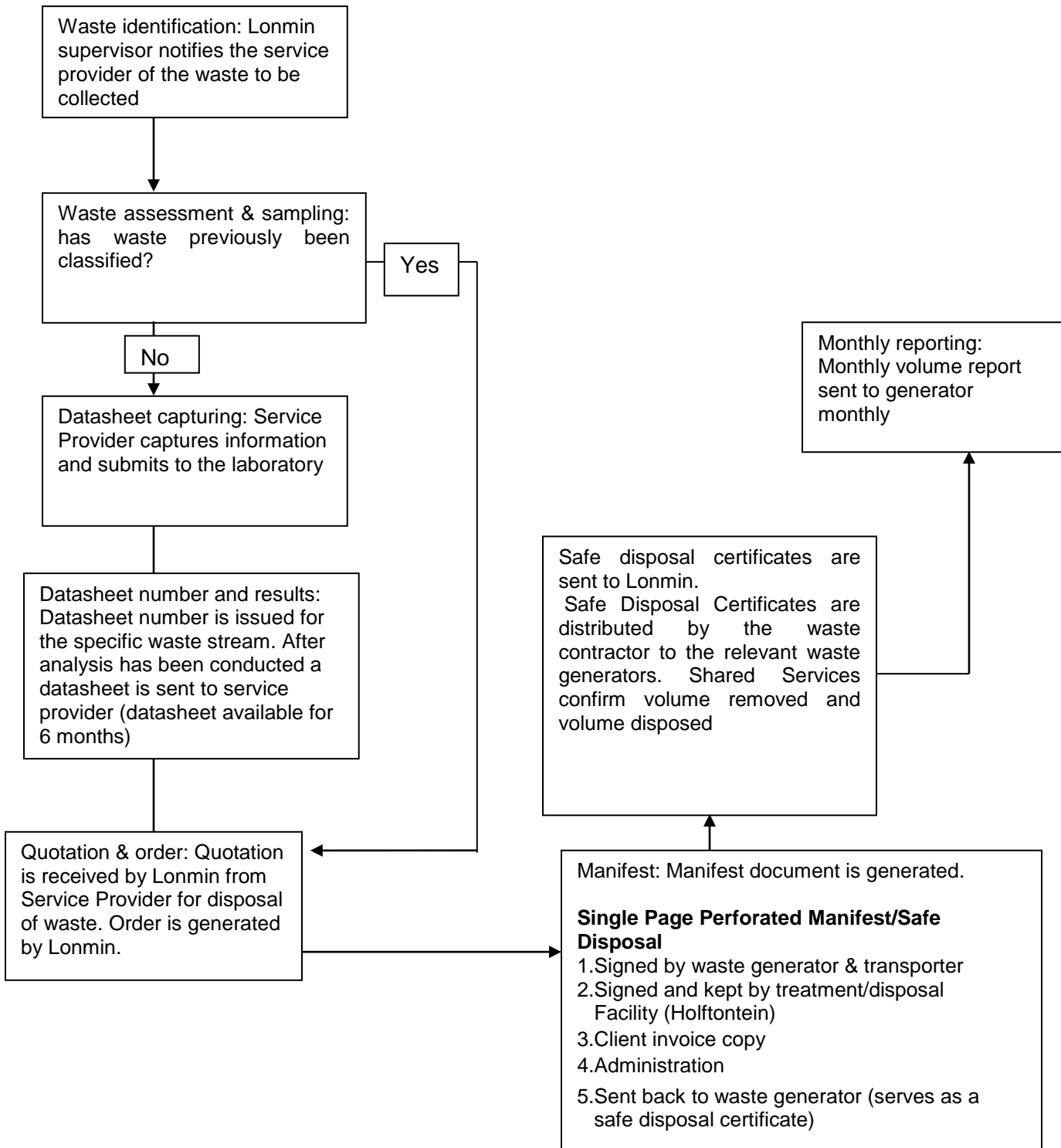
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RECORDS

Refer to PD_SHEQ_SYS_013 - Control of records procedure for records applicable to this procedure

FLOW CHART

Hazardous Waste Removal and Record Keeping Process Flow



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REFERENCES

REFERRING DOCUMENTS	AUTHOR	TITLE
Dig ilex	Green gain	Legal register
HSA	Government	The Hazardous Substances Act, 1973 (Act 15 of 1973)
OHSA	Government	The Occupational Health and Safety Act, (OHS Act), 1993 (Act 85 of 1993) and regulations
ECA	Government	The Environment Conservation Act, 1989 (Act 73 of 1989), and regulations
NWA	Government	The National Water Act, 1956 (Act 54 of 1956), and regulations
EA	Government	Explosives Act, 1956 (Act No 26 of 1956)
NEMA	Government	The National Environmental Management Act:(Act 107 of 1998)
NEMAWA	Government	The National Environmental Management: Waste Act 59 Of 2008
NRTA	Government	National Road Traffic Act (Act No. 93 of 1996)
SANS10228	South African National Standards	The identification and classification of dangerous goods for transport
<i>PD_OPG_023</i>	SHEQ	Waste Signage Marikana
<i>PD_OPG_076</i>	SHEQ	Waste Signage PMR
<i>PD_OPG_051</i>	SHEQ	Handling of Explosive Wastes
PD_ENV_003	Environmental Specialist	Spill Procedure
Waste Management By-Law	Rustenburg Local Municipality	Rustenburg Local Municipality Waste Management By-Law
<i>Waste Management By-Law</i>	<i>Madibeng Local Municipality</i>	<i>Madibeng Local Municipality Waste Management By-Law</i>
<i>Waste Classification and Management Regulations</i>	<i>Department of Environmental Affairs</i>	<i>GNR 634 Waste Classification and Management Regulations of the National Environmental Management: Waste Act No. 59 of 2008</i>
<i>National Norms and Standards for the Assessment of Waste for Landfill Disposal</i>	<i>Department of Environmental Affairs</i>	<i>GNR 635 National Norms and Standards for the Assessment of Waste for Landfill Disposal of the National Environmental Management: Waste Act No. 59 of 2008</i>
<i>List of Waste Management Activities that have, or are likely to have a detrimental effect on the Environment</i>	<i>Department of Environmental Affairs</i>	<i>No 921 List of Waste Management Activities that have, or are likely to have a detrimental effect on the Environment of the National Environmental Management: Waste Act No. 59 of 2008</i>
<i>Ekurhuleni Metropolitan</i>	<i>Ekurhuleni</i>	<i>Ekurhuleni Metropolitan Municipality Solid</i>

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REFERRING DOCUMENTS	AUTHOR	TITLE
<i>Municipality Solid Waste By-Laws</i>	<i>Metropolitan Municipality</i>	<i>Waste By-Laws</i>
<i>Health Care Waste</i>	<i>Ekurhuleni Metropolitan Municipality</i>	<i>Ekurhuleni Metropolitan Municipality Health Care Waste</i>
<i>National Norms and Standards for the Storage of Waste</i>	<i>Department of Environmental Affairs</i>	<i>National Norms and Standards for the Storage of Waste of the National Environmental Management: Waste Act No. 59 of 2008</i>

APPENDICES

None

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