Eskom	WORK INSTRUCTION	Lethabo Power Station

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1. INTRODUCTION

Lethabo Power Station supports Eskom Holdings SOC Limited in upholding government's commitment to waste management and ensuring the protection of the environment. The industrial Waste Management Plan for Generation division is the tool that is used to uphold the principles of the National Environmental Management Act, (Act No. 107 of 1998) and the National Environmental Management Waste Act, (Act No. 59 of 2008). Industrial areas such as power stations generate large volumes of both general and hazardous waste, by proactively managing these wastes the station can prevent environmental degradation, contamination of natural resources and promote good housekeeping.

2. SUPPORTING CLAUSES

2.1 SCOPE

The waste management procedure deals with the handling, colour coding, transport, recycling and disposal methods for the different waste streams as well as reporting requirements.

2.1.1 Purpose

The purpose of this work instruction is to ensure the correct control, safe storage and removal of waste by a competent waste removal body to a registered and compliant waste site.

2.1.2 Applicability

This procedure applies to all departments at Eskom Lethabo Power Station that produce waste requiring disposal, including all waste produced by contractors.

2.2 NORMATIVE/INFORMATIVE REFERENCES

2.2.1 Normative

Identifier	Name
240-157509873	Ash, Gypsum and Clinker Utilisation Standard
LBE11001	Environmental Management systems manual
LBE23004	Environmental Monitoring and Measurement Procedure
LBE23003	Environmental Non-conformance Investigation and Reporting
LBE22005	Environmental Spill Pollution Management Procedure
32-245	Eskom Waste Management Standard
GEM21-L089	Generation Division Strategic Waste Management Implementation Plan FY2021/22- 2024/25
WC7017	How and When to Operate Emergency Offloading

Identifier	Name
32-303	Requirements for safe processing, handling, storing, disposal and phase-out of asbestos and asbestos containing material, equipment, and articles
LBE22004	Specific Waste Management Action Plan

2.2.2 Informative

- National Environmental Management Act (Act No.107 of 1998)
- National Environmental Management Laws Amendment Act (Act No. 2 of 2022)
- National Environmental Management: Waste Act (Act No.59 of 2008)
- National Environmental Management: Waste Act : National norms and standards for the Disposal of Waste to Landfill (GN 636 of 2013)
- National Environmental Management: Waste Act: National norms and standards for the Storage of Waste (GN 926 of 2013)
- National Environmental Management: Waste Act: National norms and standards for the Assessment of Waste for Landfill Disposal (GN 635 of 2013)
- National norms and standards for the sorting, shredding, grinding crushing, screening or bailing of general waste (GN1093 of 2017)
- SANS 10231 Transport of dangerous goods by road - Operational requirements
- SANS 10234 Globally Harmonized System of classification and labelling of chemicals (GHS)
- SANS ISO 14001:2015 Environmental Management System: Requirements with Guidance for Use
- Waste Classification and Management Regulations (GN 634 of 2013)

2.3 DEFINITIONS

2.3.1 Classification

Definition	Explanation
Asbestos-related work	Asbestos-related work refers to any work involving asbestos, irrespective of the extent of the work. This includes for example, inspections conducted at sites where substandard conditions in relation to asbestos, or cleaning of asbestos roofs, removal of seals and packing, where the potential exposure to asbestos dust exists. Copies of notification correspondence shall be kept on site for AIA verification and auditing purposes.
Associated Structures and Infrastructure	Means the functioning of a facility or waste management activity or that is used for an ancillary service or use from the facility. In the case of Lethabo Power Station, such structures would be the Emergency Offloading Area, Salvage Yard and Temporary Hazardous Waste Site.

Definition	Explanation
Building and demolition waste	Means waste, excluding hazardous waste, produced during the construction, alteration, repair or demolition of any substance, and included rubble, earth, rock and wood displaced during that construction, alteration, repair or demolition
Colour Coding	Means the use of colour on a container or bag or the label attached as such that serves to identify the category of waste that it contains
Contract Supervisor	Eskom employee/section responsible for the management of waste management contract (Ops Support).
Disposal	Means the burial, deposit, discharge, abandoning, dumping, placing or release of any waste into, or onto, any land.
Domestic Waste	Means waste that does not pose an immediate hazard or threat to health or to the environment, and includes— (a) domestic waste; (b) building and demolition waste; (c) business waste; (d) inert waste; or (e) any waste classified as non-hazardous waste in terms of the regulations made under section 69;'
Employee	Includes full time and contracted workers as defined by the OHS Act.
Environment	Means the surroundings within which humans exist and that are made up of- (i) the land, water and atmosphere of the earth; (ii) micro-organisms, plant and animal life; (iii) any part or combination of (i) and (ii) and the interrelationships among and between them; and (iv) the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being.
E-Waste	Is the term used for old or end-of-life or discarded electronic devices. All types of waste containing electrically powered components. It includes useful as well as hazardous material which needs reuse and recycling. Examples: Computers, LCD/CRT screens, printers, cartridges and all other electronic equipment.
General waste	Waste that does not pose an immediate hazard or thread to health or the environment, and includes – (a) domestic waste; (b) building and demolition waste; (c) business waste; (d) inert waste; or (e) any waste classified as non-hazardous waste in terms of the regulations made under section 69.

Definition	Explanation
Hazardous waste	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.
Hazardous Waste Removal Body	A competent body with which Lethabo has an agreement to remove its waste. This body must be able to prove that the waste is transported to and disposed of on a registered disposal site according to legal requirements.
Production Waste	This includes coal and ash only.
Recycle	Means a process where waste is reclaimed for further use, which process involves the separation of waste from a waste stream for further use and the processing of that separated material as a product or raw material.
Re-use	Means to utilise the whole, a portion of or a specific part of any substance, material or object from the waste stream for a similar or different purpose without changing the form or properties of such substance, material or object.
Treatment	Means any method, technique or process that is designed to- a) change the physical, biological or chemical character or composition of a waste; or b) remove, separate, concentrate or recover a hazardous or toxic component of a waste; or c) destroy or reduce the toxicity of a waste, in order to minimise the impact of the waste on the environment prior to further use or disposal.
Waste	(a) any substance, material or object – (i) that the generator of that substance, material or object has no further use for within its processes, whether it has any commercial value for the generator, but which can be re-used, recycled, recovered or traded in by any person; or (ii) that is rejected, discarded or disposed of, either temporary or permanently, or is intended to be discarded or disposed of by the generator of that substance, material or object, regardless of whether or not that substance, material, or object has any commercial value for the generator or can be re-used, recycled, recovered or traded in by any person; or (b) any other substance, material or object that may be defined as a waste by the Minister by notice in the Gazette; but any waste or portion of waste, referred to in paragraphs (a) and (b), ceases to be a waste –

Definition	Explanation
	(aa) once it is re-used, recycled or recovered or traded in by the holder of that waste or portion of waste in accordance with a condition stipulated in a valid waste management licence, where applicable, or in accordance with an applicable norm or standard made in terms of this Act; or (bb) where the Minister has, in the prescribed manner, excluded the holder if any waste stream or portion of waste stream from the definition of waste, enabling the holder thereof to trade in the excluded waste stream or portion of the excluded waste streams, provided that the holder has satisfied the requirements of proving the environmental safe use of the waste stream or portion of waste stream by it or any other person and committed to provide the Minister with annual reports of the use thereof. (c) that is unwanted, rejected, abandoned, discarded or disposed of, or that is intended or required to be discarded or disposed of, by the holder of that substance, material or object, whether or not such substance, material or object can be re-used, recycled or recovered and includes all wastes as defined in Schedule 3 to this Act; or (d) any other substance, material or object that is not included in Schedule 3 that may be defined as a waste by the Minister by notice in the Gazette, (e) but any waste or portion of waste, referred to in paragraphs (a) and (b), ceases to be a waste- (i) once an application for its re-use, recycling or recovery has been approved or, after such approval, once it is, or has been re-used, recycled or recovered; (ii) where approval is not required, once a waste is, or has been re-used, recycled or recovered; (iii) where the Minister has, in terms of section 74, exempted any waste or a portion of waste generated by a particular process from the definition of waste; or (iv) where the Minister has, in the prescribed manner, excluded any waste stream or a portion of a waste stream from the definition of waste. [Definition of "waste" substituted by s. 38 of Act 14/2013 and s. 1 of Act 26/2014]
Waste Classification	Means establishing a) Whether a waste is hazardous based on the nature of its physical, health and environmental hazardous properties (hazard classes); and b) The degree or severity of hazard posed (hazard categories).
Waste Contractor	Supplier providing waste management services through the waste management contract Eskom Rotek Industries (ERI).

Definition	Explanation
Waste Coordinator	Person responsible for the day-to-day operations at the Temporary Hazardous Waste Site.
Waste Generator (Consignor)	Means any person whose actions, production processes or activities, including waste management activities, results in the generation of waste.
Waste Management Facility	A place, infrastructure, structure or containment of any kind wherein, upon or at, a waste management activity takes place and includes a waste transfer station, container yard, landfill site, incinerator, a lagoon, recycling or composting facility.
Waste Manager (Consignee)	Any person who re-uses, recycles, recovers, recovers, treats or disposes of waste.
Waste Manifest System	Means a system of control documentation, which accompanies a load of hazardous waste transported from the point of generation to the waste management facility.
Waste Transporter	Any person who conveys or transfers waste- a) between the waste generator and a waste management facility; or b) between waste management facilities

2.4 ABBREVIATIONS

Abbreviation	Description
A&F	Assurance and Forensic
ACM	Asbestos Containing Material
DFFE	Department Forest, Fisheries and the Environment
DGD	Dangerous Goods Declaration
DWS	Department of Water and Sanitation
EOL	Emergency Offloading Area
ERI	Eskom Rotek Industries
IMS	Information Management Services
IT	Information Technology
LCD	Liquid Crystal Display
MWP	Megawatt Park
NEM:WA	National Environmental Management: Waste Act (Act 59 of 2008)
NEMA	National Environmental Management Act (Act 107 of 1998)
NEMLAA	National Environmental Management Laws Amendment Act (Act No. 2 of 2022)
OHS Act	Occupational Health and Safety Act (Act 85 of 1993)
OPS	Operating Department
PrDP-D	Professional Driving Permit Dangerous Goods
SDS	Safety Data Sheet
SO_3	Sulphur Trioxide
SOW	Scope of Work
STEP	Station Thermal Efficiency Performance

Abbreviation	Description
THWS	Temporary Hazardous Waste Site
Tremcard	Transport Emergency Card

2.5 ROLES AND RESPONSIBILITIES

2.5.1 Power Station Manager

- Ensures compliance to all statutory requirements pertaining to waste management at Lethabo Power Station.
- Provides supporting resources required to fulfil adequate waste management at Lethabo Power Station.
- Signs-off of biannual waste report.
- Signs-off of monthly ash utilisation report.

2.5.2 Chemical Services Manager:

- Responsible for the organic chemical waste produced in his/her area of jurisdiction and the safe delivery thereof to the appropriate collection point i.e., Temporary Hazardous Waste Site (THWS).
- Ensuring that safe storage containers are provided at satellite collection points, within the Chemical Services Section, prior to removal of hazardous waste from the section.
- Notifying the waste contract supervisor, in a timely manner, of the need for collection of hazardous waste directly from the Chemical Services Section depending on the type of waste and volumes.
- Ensuring all hazardous waste is delivered to the THWS with the appropriate SDS.
- Ensuring medical waste (rubber gloves, used tissue, germ protection wipes) is stored safely and to contact the contract supervisor when the bins are full.

2.5.3 Senior Occupational Health Nurse:

- Responsible for the safe storage of medical waste produced as a result of the operation of Medical Centre.
- Ensuring that medical waste produced from the use of first aid kits is brought to the medical waste storage bin at the Medical Centre.
- Notifying the Contract Supervisor, in a timely manner, of the need for collection of medical waste from the Medical Centre.
- Maintaining of medical waste collection notes and the delivery of any medical waste removal documentation from the Contract Supervisor.
- Providing waste disposal records to Environmental Department for record keeping and reporting.
- Submission of medical waste manifest records to Fezile Dabi District Municipality.

2.5.4 Electrical Maintenance Manager:

- Ensures that effective fluorescent tubes and sodium lamps are safely collected, stored, and delivered to the THWS and always kept in the locked designated area.

2.5.5 Mechanical Maintenance Manager:

- Responsible for the safe storage of all waste solvents/chemical waste in the drums (solvent bay) at the Mechanical Maintenance Degreasing Plant.
- The condition of the solvent bay surrounds is clean and free from any spills or environmental contamination.
- The solvent bay sump is cleaned as needed.

2.5.6 Civil Maintenance:

- Ensures that all environmental related notice boards (including boards indicating colour codes of bins for different waste streams) are maintained and update as per request from the Environmental Department
- Participates in the biannual internal audits for the Salvage Yard in terms of the National norms and standards for the Storage of Waste

2.5.7 Contract Supervisor shall be responsible for:

- The safe storage of hazardous waste in the Hazardous Waste Site.
- The safe collection of waste from satellite collection points.
- Ensuring that satellite bins and drip trays that need replacement / re-labelling are attended to.
- Keeping the site clean.
- Submitting waste manifest to the Environmental Department on a monthly basis
- Communication with the hazardous waste removal body.
- Organising the removal of the hazardous chemical waste, medical waste, solvents and other hazardous waste from the different collection point respectively (as requested by the responsible persons of the collection point).
- Sending a “request of service” notification to supplier, for the removal of waste.
- Ensuring integrity of information supplied through the waste manifest system, and ensure all information required by Annexure 2 of the Waste classification and management regulations: GNR 634, 23 August 2013 is captured within the waste manifest system.
- Ensuring waste manifests and safe disposal certificates are retained from the waste contractor and records are kept for at least five years.
- Ensuring that waste is removed from site within the timeframe of 90 days after it has been generated.
- Ensuring all relevant scope for waste removal is included in the SOW for the Waste contract.

- Checking the correctness of the manifests, Tremcard, plug carts for hazardous waste.
- Filling checklist for waste trucks when waste is collected.

2.5.8. The Waste Manager (ERI) shall be responsible for:

- Safe disposal of general and hazardous waste generated by Lethabo Power Station.
- Assessment of waste in accordance with the National norms and standards for Assessment of Waste for Landfill Disposal prior to the disposal of the waste to landfill.
- Providing waste transporters, coordinators and waste attendants to fulfil all legal requirements.
- Ensuring vehicles used by waste transporters are in good condition and fulfil legal requirements.
- Supply of domestic waste skips that are in good condition (not rusted, intact, lidded skips to have properly closing lids).
- Housekeeping around the skips is maintained after collection.
- Ensuring waste manifests and safe disposal certificates are retained from the waste contractor and records are kept for at least five years.
- Ensuring that waste manifests and safe disposal certificates of waste disposed are delivered to Lethabo Power Station for safe keeping.
- Training to ERI employees to ensure adequate knowledge in dealing with waste management.

2.5.9 The Environmental Officer shall be responsible for:

- Overall monitoring of domestic and hazardous waste on Lethabo Power Station waste sites.
- Monitor that landfill sites used by Lethabo Power Station is operated legally and that waste is disposed legally.
- Requesting and/or conducting internal reviews/monitoring /audits when required.
- Conducting compliance reviews on all waste sites used by Lethabo Power Station.
- Submitting verified waste register to Waste Centre of Excellence monthly.
- Updating of the waste register monthly.
- Reporting on all waste streams on site in accordance with 32-245 on a biannual basis using template 240-47176064.
- Verifying the ash figures on the spreadsheet (Annexure C) supplied by process engineering section (ash disposed, ash emitted, ash recycled).
- Verify that the coal tonnages are as per the STEP report.
- Verify that the ash % figure is as per the STEP report.
- Safe keeping of all waste manifests.
- Ensuring that all waste streams generated by Lethabo Power Station is classified in accordance with SANS 10234 and the Waste Classification Regulations.
- Compiling monthly ash tonnages report for Waste Centre of Excellence.

- Capture routine data on the ash tonnages generated, recycled and disposed on South African Waste Information System (SAWIS) monthly and annual basis.

2.5.10 The Occupational Hygienist shall be responsible for:

- The development and maintenance of an asbestos and ACM register in accordance with the template in 32-303.
- The development and maintenance of an asbestos and ACM phase out plan that will meet the Eskom phase-out-date of 2033.
- Progress on the asbestos and ACM phase-out plans (Signed by the Power Station Manager) will be reported on a six-monthly frequency to the environmental officer.

2.5.11 Any contractor who produces waste on site will be responsible for:

- The transport of hazardous waste to the THWS, with the appropriate SDS when bringing in new waste.
- Ensuring that all employees under their control are familiar with and comply with this work instruction, LBE22005 (Environmental Spill Pollution Management Procedure) and LBE23002 (Environmental non-conformance Investigation and Reporting) in the case of spillage of a waste substance.
- Ensuring adequate waste management is exercised in their area.

2.5.12 Senior Environmental Advisor:

- Verify the contents waste register.
- Sign off on the waste register to ascertain that the information contained therein is correct.
- Verify report on waste streams biannually.

2.5.13 Environmental Manager:

- Signs off waste report biannually.
- Sign off monthly ash utilisation template.

2.5.14 Performance and Testing Engineering:

- Compile monthly the ash figures report (Annexure C)
- Send the ash figures report to the environmental department with the STEP report monthly in the first week of the month

2.5.15 Boiler Plant Engineering:

- Provide the verified ash emitted figures from the emissions summary report monthly.

2.5.16 Ash Offtakers:

- Provide the station with the verified ash recycled spreadsheet monthly timeously.
- Ensure compliance with the handling, storing, collecting, transporting, data reporting and disposal requirements of the ash, gypsum and clinker as specified in this standard.
- Ensure that ash, gypsum and clinker collected is managed in an environmentally sound manner by taking practicable steps to protect the human health and the environment.
- Maintain a manifest form for collection, transportation and delivery of ash.

2.5.17 Waste Coordinator:

- Controls access and operation of the THWS.
- Safely store of hazardous waste in the THWS.
- Identify waste that can be removed from THWS and sending the list to Contract Supervisor to load a “request of service”.
- Help the people with waste sorting e.g., spotters.
- Sort and label waste drums.
- Records of all waste that comes in and going out to land fill sites for disposal.
- The contract supervisor will reserve the right to turn away leaking drums or drums without lids and new wastes that do not have SDS.
- Will ensure that the site is always kept clean.
- Cleaning of the THWS.
- Loading of the drum carriers.
- Checking the correctness of the manifests, Tremcard, plug cards for hazardous waste.
- Keeping copies of waste manifests.
- Make sure that the waste collectors/transporters clean up after waste collection.
- Making sure that waste loaded in one drum carrier are not reacting to one another as per waste collection and loading chart.
- Filling checklist for waste trucks when waste is collected.
- Inspection of:
    - The condition of waste bins/skips and reporting the ones that are full and ready for collection (daily).
    - The secondary containment system (bunded area) of the Temporary Hazardous Waste Site (weekly).

2.5.18 Finance Department:

- Ensuring that rebates generated are processed and paid into the relevant Eskom Account.

2.5.19 All departments at Lethabo Power Station:

- Adherence to this procedure by their respective departments/sections.
- Ensuring that their departments are familiar with and comply with LBE22005 (Environmental Spill Pollution Management Procedure) and LBE23003 (Environmental non-conformance Investigation and Reporting) in the case of spillage of a waste substance.

2.5.20 All other Section Heads producing hazardous waste shall be responsible for the following:

- Ensuring the safe delivery of such waste to the THWS.
- Informing the contract Supervisor of deliveries to the THWS.
- Requesting correct colour coded containers from Contract Supervisor and/or collecting waste containers from stores.
- Encouraging sections to correctly manage waste.

2.5.21 Services Department:

- Services department is responsible for the managing the waste recycling contract.
- Providing bin liners for replacement of bin liners when recyclables are collected from general waste bins.
- Responsible for issuing non-returnable for contractor when removing recyclables from site.
- Responsible for installing rodent bait stations at the Salvage Yard.
- Supplying of sanitary waste disposal certificates to Environmental Department

2.5.22 Security Department:

- Security department will ensure that loads taken out from the Salvage Yard are checked prior for security purposes.
- Where there is no Eskom Official available to open Salvage Yard premises for the Waste Recycler, security will open and close the premises.
- Security will maintain safety protocols when recycling activities are undertaken on site such as facilitating the weighbridge for recording of tonnages removed.

2.6 PROCESS FOR MONITORING

The process as set out in this procedure shall be subjected to audits as undertaken by the Waste Centre of Excellence for:

- Verification of data
- Adherence to procedures
- Internal audits
- External audits as required for assurance purposes.

2.7 RELATED/SUPPORTING DOCUMENTS

- LFM058 - Acceptance of type and amount of waste
- LFM259 - Non-rotable items identified as scrap / obsolete
- LFM259B - Rotable items identified as scrap / obsolete
- 240-47176064 - Waste Reporting Template
- 240-51752992 - PCB Inventory Template
- 240-47176039 - Spill Assessment Table
- 240-47176095 - Spill Feedback Form
- LFME015 - Pre-journey inspection checklist – waste trucks
- ENV18-R214 - Eskom Monthly Tonnages report.
- 240-60945552 - Manifest Ash Disposal of Ash, Gypsum and Clinker

3. DISPOSAL PROCEDURE

Waste management at Lethabo shall be conducted in a manner that does not impact negatively on the environment and always adhering to the principles of the waste hierarchy which includes waste prevention, reduction, reuse, recycling, recovery and the last option being waste disposal. All waste disposal sites used by Lethabo Power Station must have the necessary permits/licences.

Waste streams that will be reused or recycled before disposal are considered to include ash, scrap metal (various grades), florescent tubes, wastepaper, waste oil, used 210 litre drums, conveyor belts and building rubble.

3.1 WASTE CLASSIFICATION

Waste Classification and Management Regulations, GNR. 634 came into operation on the 23 August 2014. The purpose of the regulations is to regulate the classification and management of waste in a manner which supports and implements the provisions of the Act; establish a mechanism and procedure for the listing of waste management activities that do not require a Waste Management Licence; prescribe requirements for the assessment of the environmental risk associated with disposal of waste to landfill; prescribe requirements and timeframes for the management of waste; and prescribe general duties of waste generators, transporters and managers.

Chapter 2 of the regulations deals with Waste Classification and states that:

- All waste generators must ensure that they classify all the waste they generate within 180 days of generation, in accordance with SANS 10234.
- Waste must be kept separate for the purpose of classification and must not be mixed with other wastes prior to classification.

- Waste must be re-classified every 5 years, or within 30 days of modification to the process or activity that generate the waste, changes in raw materials or other inputs or any other variation of relevant factors.
- Waste that has been subjected to any form of treatment must be re-classified under SANS 10234 as well as any waste generated because of the treatment process.
- In addition, all generators of hazardous waste must ensure that a safety data sheet for the hazardous waste is prepared in accordance with SANS 10234.

NOTE Lethabo is designed to use effluents for ash conditioning and dust suppression thus all materials not utilised for this purpose should be sent to the Hazardous Waste Store. These materials include organic, solvents and oils.

3.2 ASBESTOS WASTE

- All Asbestos related work shall be conducted in accordance to section 20 of the Asbestos regulation, 32-303: Requirements for safe processing, handling, storing, disposal and phase-out of asbestos and asbestos containing material, equipment and articles.
- When asbestos work is to take place, the waste contract supervisor needs to be notified of when the work is to take place so that the appropriate waste containers are made available depending on the quantity of the waste.
- All asbestos waste generated from any work shall be double bagged and labelled with the relevant “a” sign, then disposed of at the nearest “asbestos bin”.
- The bin/skip provided must be locked at all times and should only be opened when waste is deposited into the bin/skip
- When the bin is full, the waste contract supervisor shall be notified, so the waste removal body can remove the waste for disposal.
- For bulk asbestos removal (e.g., demolition of asbestos building) the dismantling body is responsible for handling, storage, transportation and disposal of the asbestos, the disposal certificates shall be provided to Lethabo Power station OPS support and environmental department.

3.3 BATTERIES

- Satellite collection bins for batteries are available on the 16m level between the control room change rooms i.e., one at unit one and two control rooms - one at unit three and four control rooms and one at unit five and six control rooms and all other plant areas where batteries are used.
- When these bins are full the recycling contractor collects them for recycling.

3.4 DOMESTIC WASTE MANAGEMENT

- Domestic waste items which the Station can recycle e.g., paper must be separated from the rest of the domestic waste at source and disposed of in the recycling bins provided.

- Domestic waste skips outside the Station to be fitted with a lid, waste bins to be monkey proof.
- The Environmental Department is responsible for ensuring the provision of recycling bins, and Services Department to ensure the timely emptying of these bins.
- Non-hazardous items which have potential re-sale value upon being scrapped must be sent to the Salvage Yard. This excludes scrap metal which must be disposed of in the scrap metal skips positioned in the Station and scrapped computer hardware which is normally sold via the IT Department.
- The section producing building rubble must inform the waste contract supervisor before rubble is produced so that the appropriate waste bin/skip is provided.
- It is the responsibility of the person that is loading waste into a domestic waste bin/skip to open and close it properly.
- No waste bin/skip shall be left open.

3.5 EMPTY CHEMICAL CONTAINERS

- All empty chemical containers must be punched before coming to the THWS.
- Empty chemical containers (punched/perforated) to be taken to THWS and not disposed in the general waste skips.
- The empty chemical containers may not be taken off site for personal use.

3.6 E-WASTE MANAGEMENT

- All empty cartridges, mouse, keyboards and old computers shall be delivered to IMS and stored in a designated bin.
- IT Technicians have software that they are using to sanitise the machines before they get scrapped.
- E-waste is disposed off in the following manner:

  o Bulk sale is sold on tender.

- All hard drives are sanitised (wiped clear of data)
- E-form “Manage Asset Retirements” e-form is completed, with the attached list of items to be sold.
- Investment recovery at MWP handles tender process and sale.
- Once finalised they send IT department a copy of the Agreement Letter and proof of payment and notify us who will be coming to collect the equipment and IT arranges the gate access.

  o Selling to users (E-form has to be completed)

- The desktop is sanitised, and the original operating system is installed only (i.e., Window 7 etc.)
- User obtains the sanitisation certificate from the technician and completes the “Manage Asset Retirements” e-form, attaching the certificate.

- Once the e-form is approved lastly by “Investment Recovery” at MWP, they send the user an agreement letter with the price and banking details.
- The user Signs the Agreement letter and sends it back together with proof of payment to Investment Recovery.
- A copy of both is taken to IT and then gate access is arrange for the removal of the equipment.

3.7 FLUORESCENT TUBES AND SODIUM LAMPS

- After the lighting replacements are done, the old fluorescent tubes and sodium lamps are placed in specially lined boxes provided by the waste contractor.
- The waste is then taken to the allocated locked area at the THWS only authorised personnel will keep the keys to this area.
- The waste contractor collects the waste and transports it to a suitable facility for recycling of such waste.
- Recycling facilities shall be licensed to recycle such waste.
- Manifests/recycling records are kept with the environmental department.

3.8 MEDICAL WASTE

- All medical waste is placed immediately in either a Sharps container or a medical waste disposal box, depending on the nature of the waste.
- The lid of the medical waste container shall always remain closed.
- Latex gloves shall always be used when handling medical waste.
- The primary storage site will be at the medical centre dressing area until it is collected by waste contractor to the appropriate licensed waste site.
- All expired drugs/medicines shall be collected into the Bio-hazard container in their sealed original containers (no decanting) stored at the medical centre until they are removed by waste contractor to the appropriate licensed waste site.

3.9 SANITARY WASTE

Sanitary waste is disposed through a third party, who is managed by the Services department.
Safe disposal certificates shall be forwarded to Environmental Officer monthly and included in the monthly waste register.

3.10 SOLID MOLTEN SULPHUR

- After cleaning sulphur spillages, the sulphur waste is placed into plastic 210 Litre drums/plastic lined skips if it’s of a large quantity.
- Solid waste sulphur, purged from the SO3 skids at 16m level, must be collected in the drip trays provided and taken to the collection drum at the sulphur common plant.

- Operating is responsible to inform Station Cleaning when purging has occurred at the skids, so that they may remove the solid sulphur before the drip tray becomes too full.
- 210 L drums temporarily storing solid sulphur must have lids or if they are left open, they must not be positioned so that the coal dust from the overhead conveyors can settle on the waste sulphur.
- The waste is then transported to the THWS.

3.11 WASTE SOLVENTS

- When solvent drums are full, waste contract supervisor is notified.
- The waste is taken to the THWS and will then be transported to a hazardous landfill site for disposal.

3.12 WASTE OIL MANAGEMENT

- When oil drums are full, contact 5022 to notify the waste recycler and specify exact location of the oil drums in the plant or outside the plant.
- Alternatively, send an email to services requesting for the removal of used oil.
- Waste recycler is notified and removes the waste oil.
- Services department issue an exit permit/gate pass for security purposes.
- Waste recycler issues a copy of the removal record and quantities collected including a manifest.
- Only waste oil not mixed with water is recycled via the current recycling contract.
- In the event where used oil is mixed with water or grease, OPS support to transport oil drums to the THWS.
- Eskom Rotek Industries collects used mixed oil for disposal.

3.13 SATELITE COLLECTION POINTS

- Satellite collection points, for both used solvents and oils, are present throughout the station. These points are clearly demarcated and labelled, and it is the responsibility of the waste contract supervisor to ensure that the hazardous materials eventually go to the THWS. The satellite collection points are there for convenience ONLY.
- The generator of waste needs to ensure good housekeeping around the satellite collection points.

3.14 SCRAP METAL MANAGEMENT

- Metal skips are distributed between the all the units, and at various other points around the station.
- When skips are full, civil maintenance is contacted to replace the full skip with the empty skip.
- When a metal skip is required, civil maintenance is contracted, and a skip is provided.

3.15 SEWAGE WASTE

Request from water treatment plant to arrange the collection when drying beds or sewer screen drums are full, and sewage is ready for collection. The sewage waste is disposed at the land fill site for all hazardous waste to retain waste manifests as proof of disposal.

3.16 ALL OTHER HAZARDOUS WASTE

- The waste contract supervisor ensures that empty hazardous waste drums with lids are available at the THWS where the waste coordinator makes them available on request.
- When hazardous waste is produced by a section, the Head of the Section (or whoever is assigned) takes the waste to the THWS with the SDS of the material where the waste coordinator receives the waste, the contract supervisor or the waste coordinator can be contacted to ensure someone is available to receive the waste.
- The Head of that section must ensure that the waste is delivered in leak-tight 210 litre drums (As provided in point 1) to the THWS. The lids on the drums must be closed tightly. The drums must be labelled to indicate the contents and section from which it originated.
- No waste may be left outside the gate or at any other place on the premises. If the waste coordinator is not available at the time the delivery is made there are numbers available at the site that can be called for assistance. However, the waste coordinator is never away from the site for long.
- The waste coordinator keeps an inventory of all the waste that is stored at THWS.
- The waste coordinator informs Contract Supervisor (OPS support) for the removal of waste, OPS support then informs the waste contractor(ERI) to remove the waste.
- Once ERI removes the waste, it's disposed of at a licensed hazardous landfill site and safety disposal certificates/waste manifest are retained.
- A waste register is kept with the environmental department for all the waste that has been removed from the site with all the waste manifests.

3.17 ON SITE ASSOCIATED STRUCTURES AND INFRASTRUCTURE

3.17.1 Salvage Yard

- Access of the Salvage Yard shall be always controlled.
- All items deemed as scrap shall be accompanied by means of LFM259A or LFM259B signed by the relevant Line Manager. An inventory (LFM058) form shall be maintained, on the type of salvageable material delivered to the salvage yard, date of delivery, who delivered it, and the person accepting the salvageable material at the Salvage Yard.
- All equipment brought to the Salvage Yard shall be free of liquids. e.g. Transformer oils, gearbox oils shall be drained before they are delivered to the salvage yard.

- Salvage Yard rules:
    - No item will be delivered to Salvage Yard without the relevant paperwork from the section manager.
    - No item been delivered to Salvage Yard which contains any form of liquid which becomes an environment threat will be accepted. It should be drained by the section and taken to hazardous waste site.
    - All items sold to anyone shall be taken to Salvage Yard to be inspected and normal procedures will take place.
    - All electrical equipment that contains copper and steel e.g., Motors, transformers will go on tender via MWP.
    - All copper cables are not for sale. They are sold on a national contract via MWP.
    - No dumping of any material is allowed on the outside of the salvage yard precast fence area.
    - For any dumping after hours the standby person from civil maintenance should be contacted via station control.
    - No sold items will be kept for anyone at the salvage yard for more than a week.

3.17.2 Temporary Hazardous Waste Site

- Shall be managed in accordance with National norms and standards for the Storage of Waste.
- Temporary hazardous site shall be access controlled.
- No hazardous waste shall be allowed to be left unattended outside of the hazardous waste site.
- A daily register shall be maintained of the type of hazardous waste delivered onsite, the person delivering the waste, and the person accepting the waste.
- Bund walls shall be inspected for integrity.
- The THWS to have impermeable and chemically resistant floors.
- No waste shall be allowed to accumulate onsite for more than 90 days.
- Waste containers must be labelled with the type of waste and date of accumulation.
- All empty hazardous containers shall be punched to prevent re use.
- Process followed at the THWS.
    - Any new hazardous waste that comes to the THWS must be accompanied by an SDS, all other hazardous waste can be delivered without the SDS.
    - An inventory is signed by the person who delivers the hazardous waste, and the waste coordinator must acknowledge the receipt of the waste.
    - A new 210 litre drum with a lid will be issued to the person who has delivered the waste after the inventory is signed.
    - Drums with incorrect colour coding or drums without lids will not be accepted at the THWS.
    - The lids on the drums must be correctly labelled with the contents of the waste being delivered.

- Once the waste is in the THWS, it is labelled correctly after checking the contents of the drums.
- Housekeeping is always maintained as per the duties of the waste coordinator of the THWS ensuring that the site is as clean as possible, that there is no windblown litter or odours.
- Inspection is done on the waste bins/skips to ensure that there is no leaking.
- The waste is then loaded into drums carriers making sure that the waste loaded in the drum carriers do not react to each other as per the load compatibility chart (Appendix F)
- Once drum carriers are full, the waste coordinator reports to the waste contract manager that the waste is ready for collection.
- When the waste contractor comes to site for collection of the waste; the waste coordinator conducts an inspection in accordance with LFME015 pre-journey inspection checklist – waste trucks to ensure that the driver has the correct documents for collection and transportation of hazardous waste such as a valid appropriate license, PrDP, DGD, Tremcard and Eskom permit.
- The truck is then checked for the appropriate pictograms on all sides e.g., orange warning diamond in the front and orange box in the vehicle.
- Once the waste coordinator is done with the inspection, the waste is loaded for transportation and disposed of at a licensed hazardous landfill site.

3.18 WASTE RECYCLING

- The National Environmental Management Waste Act (Act No. 59 of 2008) provides that waste must be management in accordance with the Waste Hierarchy (Avoid, Reduce, Re-use, Recycle, Recover and Disposal).
- An onsite sorting and recycling program was established at Lethabo Power Station as a way to divert as much waste as possible from Land-Fill sites.
- Lethabo Power Station complies with the National Environmental Management Act (Act No. 107 of 1998) and all related legal requirements.
- Lethabo Power Station implemented a recycling program for majority of its waste streams.
- The service provider is required to provide onsite recycling and sorting service.
- Contractor shall provide all labour, equipment, services and material necessary to achieve the objectives of the recycling program.

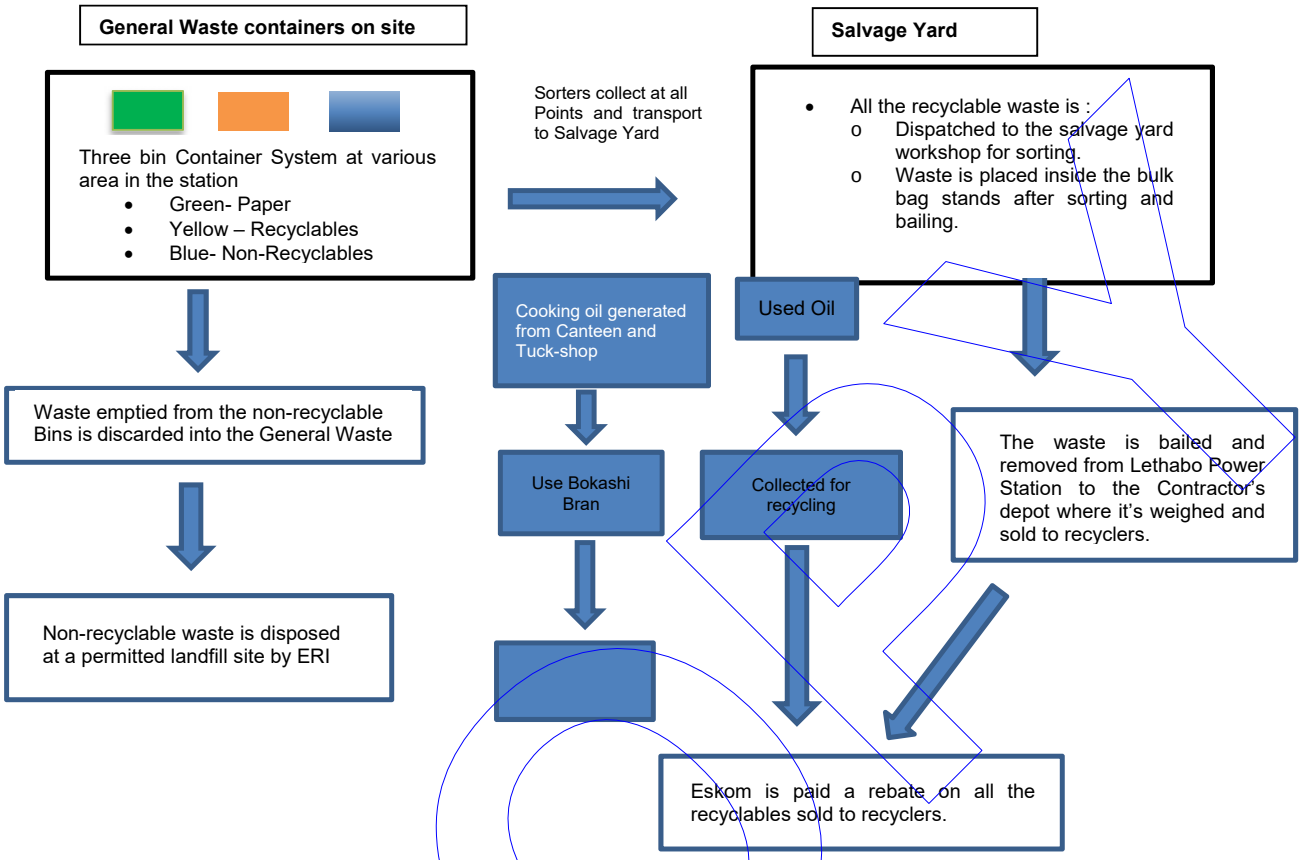

Figure 1 – Process flow for recycling at Lethabo Power Station

3.18.2 Process for used oil waste recycling

- The requester dials 5022 and notify the waste controller of the oil drums for collection.
- Specify the number of oil drums and location of the drums.
- The recycling coordinator sends the oil waste recycler.
- The used oil recycler collects the oil from the plant / **associated structures and infrastructure** and issue a manifest.
- The Eskom representative issues a non-returnable slip/ gate pass to the waste recycler.
- The waste recycler pays the rebates to Eskom

3.18.3 Process for E-Waste recycling

- Requester dials 5022 and notify the waste coordinator of the e-waste to be collected.
- The waste sorters collects the waste and take it to the Salvage Yard
- The waste recycling contractor sorts the waste into different components
- The recycler pays back the rebates for any e-waste sold.

3.18.4 Process for recycling Wood Pallets

- Requester dials 5022 and notify the waste coordinator of the wood pellets to be collected
- The waste sorters collects the waste and take it to the Salvage Yard
- The waste recycling contractor sorts the waste into different components
- The recycler pays back the rebates for any wood pellets sold
- Damaged pellets are disposed of as biomass

3.19 WASTE TRANSPORTER REGISTRATION

- All vehicles used for the purpose of waste transportation must be permitted in accordance to the prescribed legal requirements.
- Waste must only be collected by a registered waste transporter in terms of the National Waste Information Regulation 625 of 2012.
- Waste transporters must only accept waste that was classified in accordance to regulation 4 of the National Environmental Management Waste Act 59 of 2008.
- Waste transporters may not accept waste that is classified hazardous without the Waste Manifest for that waste.
- The Waste transporter must provide the following information to the generator:
    - Name of the transporter
    - Address and the telephone number of the transporter
    - Declaration acknowledging receipt
- All waste transporters must complete a Manifest document.
- Waste transporters must provide the waste information to the generator before transporting the waste from Lethabo Power Station.
- Waste transporters must provide the waste information to the Waste Management Officer at the time of delivery of the waste for the waste management activity e.g., landfill site, incineration facility, recycling facility etc.

3.20 ASH OFFTAKERS

The following measures to be taken by ash off takers at Lethabo Power Station

- Trucks to be always fitted with tight fitted tarpaulins.

- Trucks to always have drip trays.
- Truck drivers to use our bins to dispose of general waste and avoid littering.
- Truck drivers shall report all spillages to environmental department and contract supervisor.
- The owner of the contract responsible for clean-up and remediation of all spillages that they cause.
- Ensuring that the drivers complete Waste Manifest for Ash, Gypsum and Clinker 240-60949552.

3.21 CALCULATING ASH PRODUCED, DISPOSED AND RECYCLED

- Calculation of ash produced figure
- Coal burnt x Ash %= Ash produced in tons
- Conversion from tons to kT= $\frac{\text{Ash produced in tons}}{1000}$
- Ash recycled figure shall be obtained from the dispatch sheets obtained from the contractor that is purchasing the ash from the station.
- Fly ash recycled figures shall be supplied by Ash Resources representatives to the environmental department.
- Bottom ash recycled figures shall be supplied by Eskom Rotek Industries before the 8th of each month to the environmental department.
- The ash emitted figure shall be obtained from the emissions summary report
- kT final ash disposed= Ash Produced in tons – ash recycled –ash emitted
- A risk assessment has been conducted to identify all the things that might go wrong when compiling the ash figures and included in the aspects and impacts register

3.22 COLOUR CODING

According to the waste separation requirements for Lethabo Power Station the different waste streams produced will be disposed of in the appropriate bins and skips provided specifically for each of these streams. Notice boards displaying colour coding for Lethabo Power Station shall be placed in key areas on site and maintained.

Table 1: Lethabo Waste Colour coding

Waste Stream	**Disposal**
Domestic	White skips and bins
Production	Black skips
Hazardous Waste	Red drums
Medical Waste	Marked medical waste
Asbestos	Yellow drums/skips
Batteries	Purple containers
Scrap Metal	Blue Skips
Paper	Green 120 L wheelie bin marked Paper
E-waste	Marked e-waste

Waste Stream	**Disposal**
Mixed Recyclables	Yellow 210 L wheelie bins marked “Recyclables”
Non-Recyclables /Wet waste	Blue 210 L wheelie bins marked Non-Recyclables/Wet Waste
Food waste (Bokashi)	50 L blue drum with black lid

Figure 2: Three bin container system used for Waste Recycling

NOTE Colour coding will be used as best practice however, it is subject to change based on supplier capability

3.23 AUDITING

- Waste Management will be audited during legal compliance audits every second year.
- A waste management review may be conducted every second year by the Waste Centre of Excellence to determine compliance to legislative requirements (mainly the National Environmental Management Waste Act (Act No. 59 of 2008) and its Regulations), conditions of station's Waste related permits and/or licenses, Eskom Waste Management Standard 32-245.
- Internal audits to be conducted on the THWS, Salvage Yard and EOL, based on the requirements of the National norms and standards for Storage of Waste and National norms and standards for sorting, shredding, grinding, crushing, screening or baling of general waste twice a year (biannually).
- An official report must be compiled by the relevant auditor to report the findings of the audits, which must be made available to the external auditor.
- An independent external auditor must be appointed to audit the THWS and Salvage Yard to evaluate compliance to the National norms and standards for Storage of Waste (GN 926 of 2013) and National norms and standards for the sorting, shredding, grinding crushing, screening or bailing of general waste (GN1093 of 2017) biennially (every 2 years) and the auditor must compile an audit report documenting the findings of the audit, which must be submitted to the relevant authority.

3.24 REPORTING

- Reporting shall be done in accordance with Eskom Waste Management Procedure, 32 – 245.
- A waste register is kept on site detailing the amount of waste produced for the month, how much waste was recycled and how much waste was disposed of.
- Monthly Ash Utilisation Template – ENV18-R214 – Eskom Monthly Report Results Generation Sign-Off by the owner of each KPI.

3.25 RECORDS

- All certificates of safe disposal and waste inventories shall be retained for the life of the power station.
- This procedure shall be retained for the life of the power station, unless it is deemed no longer necessary by the Power Station General Manager or when it is superseded.
- This procedure shall be reviewed every three years from the date of last review.

4. AUTHORISATION

This document has been seen and accepted by:

NAME	DESIGNATION
K Rakgolela	General Manager
H Sewsunker	Technical Plant Manager
O Nkejane	Acting Engineering Manager
N Mazibuko	Acting Operating Manager
L Hlapane	Acting Procurement and Supply Chain Manager
V Mokoena	Coal Manager
M Hariram	Environmental Manager
M Tsoaeli	Finance & Services Manager
T Mocoancoeng	Human Resource Manager
L Monnakgotla	Maintenance Manager
A Macholo	Outages Manager
M Holtzhausen	Programme Manager
S Maringa	Risk and Assurance Manager

In the preceding table, list the manager/s of the departments that will be affected by the content of this document.

5. REVISIONS

Date	Rev	Compiler	Description of Revision
2008-03-20	00		Scrapped changed to Salvage Yard Mechanical Maintenance Manager (OP) to Mechanical Maintenance Manager (PP) Waste removal body to waste removal undertaker Requesting and for conducting internal audits when required (box inserted) Hazardous Chemical Waste to Hazardous Organic Waste & Spent Solvent Mechanical Maintenance Manager (OP) to (PP) Insertion of :Note Waste as above removal body to waste removal undertaker Insertion of paragraph : Satellite collection PTAs Change LBA00054 to LRA000015
2010-06-07	01		Include Salvage Yard, Temporary Hazardous Waste Site, Waste Management Procedure 32-245 and change LRA000015 to LBE22004PC. Change format to incorporate ISO9001 Standard.

Date	Rev	Compiler	Description of Revision
2010-07-27	02		5.13.2, 6.2&6.3 – Salvage Yard procedure update: All items deemed as scrap shall be accompanied by means of LFM259A or LFM259B signed by the relevant Line Manager. An inventory (DCC058) form shall be maintained, on the type of salvageable material delivered to the salvage yard, date of delivery, who delivered it, and the person accepting the salvageable material at the salvage yard. Temporary Hazardous Waste Site: Add 5.13.5 All empty hazardous containers shall be punctured to prevent re-use 5.13.6 Nominally empty packaging certificate will be issued to the contractor when taking empty containers for disposal. OPS Support is replaced with OPS Support.
2011-03-02	03		The following paragraphs has been inserted Definitions – 3.19 – E-Waste 5.12 – E-Waste Management
2012-10-08	04		Added Appendix C to procedure- waste reporting requirement
2013-12-09	05	L Moreoane	• The following has been amended: • The definitions as far as practical are in accordance with NEMA and NEMWA where applicable. • The explanation for OHS Act has been inserted in the abbreviations. • Reference to 32-303 Requirements for safe processing, handling, storing, disposal and phase-out of asbestos and asbestos containing material, equipment and articles has been added to the Asbestos waste disposal. • The auditing part has been added on • The layout of the procedure has changed. • The roles and responsibilities for OPS Support Supervisor and Environmental officer have been amended. • Responsibility for the Occupational Hygienist. • Waste bins colour coding • Scrap metal management • Waste oil management
2014/11/21	06	L Moreoane	• Definitions added

Date	Rev	Compiler	Description of Revision
			• Roles and responsibilities of the following have been added or amended o Environmental Officer o Environmental Manager o Process Engineering o Boiler Plant Engineering o Ash Recycling Company o Waste Coordinator • Process for calculating ash has been added into the procedure • Monthly waste register signoff sheet • Salvage yard rules • Sewage sludge • Empty chemical containers • Ash Figures Spreadsheet
2015/12/03	07	L Moreoane	• The following definitions were added o Medical waste • The following abbreviations were added o PrDP-D o DGD o Tremcard o MSDS • All roles and responsibilities were amended • All disposal processes were amended • Process followed at the temporary hazardous waste site was added
2017/07/05	08	WFL de Klerk	• Definitions added/changed: o Waste Manager (Consignee) o Waste Generator (Consignor) o Contract Supervisor o Waste Contractor • Roles and responsibilities updated. • Florescent tubes disposal/recycling updated. • Colour coding updated. • Updated Annexure D to contain new waste register issued by Waste CoE.
2020/01/28	09	WFL de Klerk	• Added Sanitary waste disposal requirements. • Added ash recycling reporting requirements. • Added Roles and responsibility of: o Power Station Manager o Environmental Manager o Finance and Services Department o Senior Environmental Manager

Date	Rev	Compiler	Description of Revision
2021/04/13	10	J Maphutha	• Added requirements for waste transporter in the station • Added requirements for registration of the vehicles transporting waste. • Added waste classification requirements
2021/07/31	11	J Maphutha	• Updated roles and responsibilities for Services Security and Finance Departments • Added the waste recycling three bin system • Added a recycling flow chart • Changed a list of people and updated the roles • Added appendix E Manifest for Ash, Gypsum and Clinker
2022/08/12	12	L Moreoane	• Deleted definition of hazardous waste as per waste act • Adding e-waste sanitisation requirements and updating disposal methods • Removed o Handling of spillage inside the hazardous storage site, at satellite points and working areas – this requirement is accommodated in the spill management procedure • Rearranged the procedure for better flow of information
2023/11/15	13	L Maebana	• Rearranged the procedure for better flow of information • Moved some of the Compliance Obligations from 2.2.1 Normative to 2.2.2 Informative • Added the Work Instruction for How and When to Operate Emergency Offloading and Generation Division Strategic Waste Management Implementation Plan FY2021/22-2024/25 and the Specific Waste Management Action Plan under 2.2.1 • Added the National norms and standards for the sorting, shredding, grinding crushing, screening or bailing of general waste under 2.2.2 • Added the following definitions added/changed according to the NEMLAA: o Associated structures and infrastructures o Building and demolition waste o Domestic Waste o General Waste o Hazardous Waste

Date	Rev	Compiler	Description of Revision
			o Waste • Amended the following definitions: o Hazardous Waste • Added the following responsibilities: <u>Civil Maintenance</u> o Participates in the biannual internal audits for the Salvage Yard in term of the Norms and Standards for the Storage of Waste <u>Environmental Officer</u> o Capture routine data on the ash tonnages generated, recycled and disposed on South African Waste Information System (SAWIS) monthly and annual basis. • Deleted the following: o Definition of Storage area o On site storage facilities (replaced with On site associated structures and infrastructure) o The Section on Food Waste Composting o Layout plan showing location of the Temporary Hazardous Waste Site, Salvage Yard • Inserted a Google Earth image of Lethabo Power Station Showing the Temporary Hazardous Waste Site, Salvage Yard and Emergency Offloading Area

6. DEVELOPMENT TEAM

- Lehlogonolo Moreoane
- Lucky Monyamane
- Joakim Ramarou
- Lethabo Maebana

7. ACKNOWLEDGEMENTS

- None

8 APPENDICES

8.1	Appendix A	-	Plan of Lethabo Power Station indicating the location of the Hazardous Waste Store, degreasing plant and Salvage Yard.
8.2	Appendix B	-	Monthly waste register signoff sheet
8.3	Annexure C	-	Ash Figures Spreadsheet
8.4	Appendix D	-	Load Compatibility Chart as per SANS 10231
8.5	Appendix E	-	Waste Manifest for Ash, Gypsum and Clinker

8.1 Appendix A - Plan of Lethabo Power Station indicating the location of the Temporary Hazardous Waste Site, Salvage Yard and Emergency Offloading Area

8.2 Appendix B - Monthly Wastes Register Template

Eskom

ESKOM WASTE REGISTER FY2017/18

Risk and Sustainability Division: Environmental Management

BU NAME:

LEVEL1	LEVEL 2			LEVEL 3 - SPECIFIC WASTE TYPE	Apr-17															
					Waste Produced					Waste Recycled					Waste Disposed					
					(m3)	(kg)	(L)	(kT)	(T)	(m3)	(kg)	(L)	(kT)	(T)	(m3)	(kg)	(L)	(kT)	(T)	Income (R)
GENRAL WASTE	GW01	General: Municipal waste																		
	GW10	General: Commercial and industrial waste																		
	GW13	General: Brine																		
	GW14	Fly ash and dust from miscellaneous filter sources																		
	GW15	General: Bottom ash																		
	GW16	Slag	GW1601	Slag: Ferrous metal slag																
			GW1602	Slag: Non-ferrous metal slag																
			GW1603	Slag: Other																
	GW17	Mineral waste	GW1701	Foundry sand																
			GW1702	Refractory waste																
			GW1703	Mineral waste: Other																
	GW18	Waste of Electric and Electronic Equipment (WEEE)	GW1801	Large household appliances																
			GW1802	Small household appliances																
			GW1803	Office, information and Communication Equipment																
			GW1804	Entertainment and Consumer Electronics and toys, leisure, sports and recreational equipment and automatic issuing machines																
			GW1805	Lighting equipment																
			GW1806	Electric and electronic tools																
			GW1807	Security and health care equipment																
			GW1808	Mixed WEEE																
	GW21	Organic waste	GW2101	Organic waste: Garden waste																
			GW2102	Food waste																
			GW2103	Wood waste																
	GW21	Sewage sludge	GW2101	Sewage sludge																
	GW30	Construction and demolition waste	GW3001	Construction and demolition waste																
	GW50	Paper	GW5001	Newsprint and magazines																
			GW5002	Brown grades																
			GW5003	White grades																
			GW5004	Mixed grades																
	GW51	Plastic	GW5101	Polyethylene terephthalate																
			GW5102	High-density Polyethylene																
			GW5103	Polyvinylchloride																
			GW5104	Low-density Polyethylene																
			GW5105	Polypropylene																
			GW5106	Plastic: Polystyrene																
			GW5107	Plastic: Other																
	GW54	Metals	GW5301	Ferrous metal																
			GW5302	Non-ferrous metal																
	GW54	Tyres	GW54	Tyres																
	GW99	Other	GW99	Other																

HAZARDOUS WASTE	HW01	Gaseous waste	HW0101	Gases (excluding Greenhouse gases)
			HW0102	Obsolete ozone depleting gases
	HW02	Mercury containing waste	HW0201	Liquid waste containing mercury
			HW0202	Solid waste containing mercury
	HW03	Lead batteries	HW0301	Lead batteries
			HW0302	Mercury batteries
			HW0303	Ni/Cd batteries
			HW0304	Manganese dioxide and alkali batteries
			HW0305	Lithium and Lithium ion batteries
			HW0306	Nickel-metal hydride batteries
			HW0307	Mixed batteries
	HW04	POP waste	HW0401	PCB containing waste (>50mg/kg)
			HW0402	Other POP-containing waste
	HW05	Inorganic waste	HW0501	Liquid and sludge inorganic waste
			HW0502	Solid inorganic waste
			HW0503	Spent pot lining (inorganic)
	HW06	Asbestos containing waste	HW0601	Asbestos containing waste
	HW07	Waste oils	HW0701	Waste oil
	HW08	Organic halogenated and /or sulphur containing solvents	HW0801	Solvents containing halogens and/or sulphur
	HW09	Organic halogenated and /or sulphur containing solvents	HW0901	Liquids and sludges containing halogens and/or sulphur
			HW0902	Solids containing halogens and/or sulphur
	HW10	Organic Solvents without halogens and sulphur	HW1001	Solvents without halogens and sulphur
	HW11	Other organic waste without halogens or sulphur	HW1101	Liquid and sludge organic waste
			HW1102	Solid organic waste
			HW1103	Spent pot lining (organic)
	HW12	Tarry and Bituminous waste	HW1201	Tarry waste
			HW1202	Bituminous waste
	HW13	Brine	HW1301	Brine
	HW14	Fly ash and dust from miscellaneous filter sources: Fly ash	HW1401	Fly ash
	HW15	Bottom ash	HW1501	Bottom ash
	HW16	Slag	HW1601	Ferrous metal slag
			HW1602	Non-ferrous metal slag
			HW1603	Other
	HW17	Mineral waste	HW1701	Foundry sand
			HW1702	Refractory waste
			HW1703	Other
	HW18	Waste of Electric and Electronic Equipment (WEEE)	HW1801	Large household appliances
			HW1802	Small household appliances
			HW1803	Office, information and communication equipment
			HW1804	Entertainment and consumer electronics and toys, leisure, sports and recreational equipment and automatic issuing machines
			HW1805	Lighting equipment
			HW1806	Electric and electronic tools
			HW1807	Security and health care equipment
			HW1808	Mixed WEEE
	HW19	Health care risk waste: Pathological waste	HW1901	Pathological waste
			HW1902	Infectious waste and sharps
			HW1903	Health care risk waste: Chemical waste
	HW20	Sewage sludge	HW2001	Sewage sludge
	HW99	Miscellaneous	HW9901	Miscellaneous

8.3 Appendix C - Ash Figures Spreadsheet

Eskom Generation

PERFORMANCE AND TESTING

LETHABO POWER STATION ASH FIGURES 2020 - 2021

Month	Coal Tonnes	Ash %	Tonnes	KT Ash Produced	KT Ash Recycled (AshResources)	KT Ash Recycled (ASHCOR)	Ash Emitted	KT Final Ash Disposed
Apr-20								
May-20								
Jun-20								
Jul-20								
Aug-20								
Sep-20								
Oct-20								
Nov-20								
Dec-20								
Jan-21								
Feb-21								
Mar-21								
TOTAL								

8.4 Appendix D - Load Compatibility Chart as per SANS 10231

CLASS	1	2.1	2.2	2.3	3	4.1	4.2	4.3	5.1	5.2	6.1	6.2	7	8 acid	8 base	
1																
2.1											A	A		A		
2.2														A		
2.3																
3									A	A						
4.1									A	A						
4.2									A	A						
4.3									A	A						
5.1					A	A	A	A								
5.2					A	A	A	A						A		
6.1		A												A		
6.2		A												A		
7																
8 acid		A	A							A	A	A			A	
8 base														A		
9																

8.5 Appendix E - Manifest for Ash, Gypsum and Clinker

Eskom	MANIFEST/SAFE DISPOSAL FOR ASH, GYPSUM AND CLINKER	Document Identifier	240 - 60949552
		Revision	1
		Authorisation Date	
		Review Date	August 2022

Waste Generator (Consignor)							
Completed by		Manifest Unique No		Waste Description			
Date of collection/dispatch		Tel. No.		Hazardous		Non hazardous	
Generator's name		Tel No.		Waste Description *(e.g. bottom or fly ash)*			
Generator's physical address		Quantity of Ash/Gypsum in tons		SANS Class No.		Hazard Rating:	
Intended receiver 's name & address for waste to be taken to		Weighbridge transaction number					
Generators Certification: *I hereby declare that the contents is properly described, packed, marked and labelled before transportation according to all relevant legislation*		Name		Surname		Signature	Date

Waste Transporter Details					
Transporter name		Waste collection date		Driver initial &Surname	
Transporter address		Vehicle registration number		Transporter Tel. No.	
Date waste removed from the site		Transporter manifest no.		Transporter Fax No.	
Estimate quantity of waste (Tonnages)				Transporter Email Address	
Transporter /Contractors Acknowledgment of receipt of Waste Collected		Signature		Date	

Ash/Gypsum/Clinker Receipt Site					
Receiver Name				Date of Receipt	
Receiver Physical Address				Tel No:	
Type of Waste Management Applied (Re-Use, Recycling, Recovery, Treatment, Disposal).				Quantity received in tons	
***Receiver /Operator** Acknowledgment of receipt of Materials & understand the impact of waste on health and the environment, Class & Hazard Rating*		Name		Surname	Signature	Date