

 Eskom	Work Instruction	Primary Energy Division
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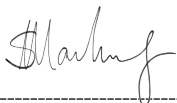
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Compiled by	Supported by	Functional Responsibility	Authorized by
			
S Mavhungu Senior Environmental Advisor	T Ntjoboko Middle Manager: Environment	V Mati Senior Environmental Advisor	D Govender Middle Manager: Engineering
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Content

1. Introduction.....	3
2. Supporting Clauses	3
2.1 Scope.....	3
2.1.1 Purpose.....	3
2.1.2 Applicability	3
2.1.3 Effective date.....	3
2.2 Normative/Informative References	3
2.2.1 Normative.....	4
2.2.2 Informative.....	4
2.3 Definitions	4
2.4 Abbreviations	6
2.5 Roles and Responsibilities	7
2.6 Process for Monitoring.....	7
2.7 Related/Supporting Documents.....	7
3. Waste Management	7
3.1 Waste Generation	8
3.2 Waste Separation.....	8
3.3 Waste Minimisation, recycling and reuse.....	8
3.4 Temporary Storage requirements.....	9
3.5 Transportation of waste	10
3.6 Disposal of waste	10
3.7 Waste Manifest.....	10
3.8 Waste Classification	11
3.9 Waste Reporting.....	11
3.10 General	11
4. Acceptance.....	11
5. Revisions.....	12
6. Development Team	12
7. Acknowledgements	12

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1. Introduction

In the pursuit of compliance with ISO14001 and environmental legal requirements, Eskom: Primary Energy Division (here after referred to as PED), is committed to implement the highest standards of environmental management. PED expects this similar commitment from all contractors that perform work for or on its behalf.

To assist with the above, PED has compiled this Work Instruction to provide waste management requirements for Komati Water Scheme.

2. Supporting Clauses

2.1 Scope

The requirements outlined in this document apply to all (visitors, employees, contractors and Eskom Rotek Industries) that perform work at Komati Water Scheme.

2.1.1 Purpose

The purpose of this document is to provide requirements for implementing and maintaining effective waste management principles for all waste generated at Komati Water Scheme.

2.1.2 Applicability

This document shall apply to Komati Water Scheme.

2.1.3 Effective date

This work instruction will be effective from the authorisation date.

2.2 Normative/Informative References

Parties using this document shall apply the most recent edition of the documents listed in the following paragraphs.

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2.2.1 Normative

- [1] ISO 14001:2015 Environmental Management System.
- [2] 32-245 Eskom Waste Management Standard.
- [3] SANS 0290: 2008: Mineral oils – management and handling of PCB.
- [4] 32-1135 PCB Phase out Standard.
- [5] National Environmental Management: Waste Act 59 of 2008.
- [6] National Environmental Management: Waste Act 59 of 2008: GN 718 of 3 July 2009.
- [7] SANS codes for transportation of hazardous waste -10228 to 10234, 10206, 10265.
- [8] 240-132020767 Eskom Waste Register

2.2.2 Informative

- [1] Basel Convention on the trans-boundary movement of hazardous waste.
- [2] Environment Conservation Act 73 of 1989.
- [3] SANS ISO 14001:2015 Environmental Management System
- [4] National Environmental Management Act 107 of 1998.
- [5] National Waste Management Strategy (NWMS) of 2011.
- [6] DWA policy on Fluorescent tubes.
- [7] The Hazardous Substances Act no. 15 of 1973.
- [8] The National Road Traffic Act No 93 of 1996 – GN R225 of 17 March 2000 – National Road Traffic Regulation.
- [9] Explosives Act no. 15 of 2003 – GN R1604 of 8 September 1972 – Regulations.
- [10] Minimum Requirements for the handling, classification and disposal of Hazardous Waste (DWAF), Version 2 of 1998.

2.3 Definitions

2.3.1 Business Waste: means waste that emanates from premises that are use wholly or mainly for commercial, retail, wholesale, entertainment or government administration purpose.

2.3.2 General 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; or
- d) inert waste.

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2.3.3 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 and includes hazardous substances, materials or objects within business waste, residue deposits and residue stockpiles.

2.3.4 Recycling: 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.

2.3.5 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.

2.3.6 Storage: means the accumulation of waste in a manner that does not constitute treatment or disposal of that waste.

2.3.7 Treatment: means any method, technique or process that is designed to:

- a) change the physical, biological or chemical character or composition of a waste;
- 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.

2.3.8 Waste means:

- a) any substance, material or object 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 reused, recycled or recovered and includes all wastes as defined in Schedule 3 to the Act (NEMWA, 2014); or
- b) 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, 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 reuse, recycling or recovery has been approved or, after such approval, once it is, or has been, reused, recycled or recovered;*
 - (ii) *where approval is not required, once a waste is, or has been reused, recycled or recovered; or*

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- (iii) *where the Minister has, in terms of Section 74 of NEMWA, exempted any waste or a portion of waste generated by a particular process from the definition of waste; or where the Minister has, in the prescribed manner, excluded any waste stream or a portion of a waste stream from the definition of waste.*

2.3.9 Waste Classification: means establishing, in terms of SANS 10234

- 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).

2.3.10 Waste Disposal Facility: means any site or premise used for the accumulation of waste with the purpose of disposing of that waste at that site or on that premise.

2.3.11 Waste transfer facility: means a facility that is used to accumulate and temporarily store waste before it is transported to a recycling, treatment or waste disposal facility.

2.3.12 Waste Generator: any person whose actions, production processes or activities, including waste management activities, results in generation of waste.

2.4 Abbreviations

Abbreviation	Explanation
ECA	Environmental Conservation Act
ERI	Eskom Rotek Industries
GN	Government Notice
HCS	Hazardous Chemical Substance
ISO	International Standards Organisation
KWS	Komati Water Scheme
NEMA	National Environmental Management Act
NEMWA	National Environmental Management Waste Act
NWMS	National Waste Management Strategy
PCB	Poly Chlorinated Biphenyls
PED	Primary Energy Division
PPE	Personal Protective Equipment
SANS	South African National Standards
SHE	Safety, Health, and Environment

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2.5 Roles and Responsibilities

PED is responsible to ensure that this work instruction is updated and that evidence of compliance is obtained from ERI.

ERI and its subcontractors are responsible for:

- Implementation of the requirements of this work instruction.
- Obtaining and keeping relevant documents and records generated in the implementation of this work instruction.

2.6 Process for Monitoring

The implementation of this procedure shall be monitored through internal and external audits.

2.7 Related/Supporting Documents

The following records may be generated from this work instruction:

- Waste Manifests and Safe Disposal Certificates.
- Incident Reports.
- Permits (where applicable).
- Inspection records.
- Eskom waste Register

3. Waste Management

PED and its contractors will practice the five environmental management principles in line with NEMA (Act 107 of 1988):

- **Duty of care:** the waste is avoided, minimised, reused or recycled or otherwise disposed of in a responsible manner.
- **Cradle to grave:** responsibility for the waste and the considerations of the waste exist throughout its life cycle.
- **Polluter pays principle:** any organisation causing pollution is liable for the costs of cleaning it up.
- **Precautionary principle:** always assume that waste is hazardous until shown to be safe.

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- **Preventive principle:** reduce risk by collection, treatment and disposal to take place as near as possible to the point of generation as is technically and environmentally feasible.

3.1 Waste Generation

All employees, including visitors, contractors, and suppliers doing work on behalf of the PED on KWS premises, are considered as waste generators in terms of this work Instruction. Therefore, it is the responsibility of each generator to identify any general or hazardous wastes that he or she might be producing and to ensure the waste is handled in a manner consistent with this work Instruction.

Waste generators must institute good housekeeping and operating practices.

Waste generators must ensure minimisation of hazardous waste generation by implementing stringent waste segregation to prevent the mixing of non-hazardous and hazardous waste.

3.2 Waste Separation

At source separation means that the waste will be separated where it is generated and waste bins will be made available where applicable. Waste must at least be separated into general and hazardous waste.

KWS team must ensure that the colour-coding system and or label / signage system are used, to identify the various waste skips or bins in terms of the waste stream to be disposed of.

3.3 Waste Minimisation, recycling and reuse

KWS team must take all reasonable measures to avoid the generation of waste and where such generation cannot be avoided, minimise the amount of waste generated by reducing, reusing and recovering waste, where applicable.

Waste must be managed in such a manner that it does not endanger health or the environment or cause a nuisance through noise, odour or visual impacts.

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3.4 Temporary Storage requirements

The following requirements as per the Eskom Waste Management Standard should be adhered to:

- General waste skips / bins should be closed with a lid, cover or net to prevent the waste from being blown away, or rain entering the skip / bin;
- Hazardous waste skips / bins should be closed with a lid or cover to prevent rain from entering the skip / bin and therefore contaminating rainwater with hazardous substances / waste;
- All waste containers must be of sufficient strength and structural integrity to ensure that it is unlikely to burst or leak in its ordinary use;
- Waste that is spilled or blown by wind during opening, handling or storage must be contained;
- The containers in which waste is stored must be intact and not corroded or in any other way rendered unfit for the safe storage of waste;
- The necessary permits/licenses to store or dispose of the waste must be in place. Refer to the SHE Legal Requirements Register and NEMWA for a reference to the relevant legislation providing details on waste licensing requirements;
- In locating the waste storage facilities the public health and environmental protection must be considered;
- Storage areas must be located in such a manner that it can provide optimum handling and transportation of waste material;
- All storage facilities must be located in areas accessible by emergency response personnel and equipment;
- As per the Department of Water Affairs' (DWA's) *Minimum requirements for the handling, classification and disposal of hazardous waste*, the waste transfer facilities / waste yards / salvage yards are to be fenced off to prevent unauthorised access and a weatherproof, durable and clearly legible notice-board in official language should be placed at the entrance of the storage area with the words "*Hazardous Waste: unauthorised entry prohibited*";
- Adequate measures must be in place to prevent accidental spillage, or leakage, and in the case of an incident, adequate mitigation measures are in place to mitigate, and to prevent re-occurrence of the incident;
- Nuisances such as odour and visual impacts should be prevented from arising.

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3.5 Transportation of waste

- The waste generator(s) must use reputable general waste transporting companies for the transportation of general waste to the Municipal landfill site(s). For hazardous waste, a registered hazardous waste transporting company is to be used for the removal, transportation and disposal of the hazardous waste to an Authorised Hazardous waste landfill site.
- Waste contractors transporting hazardous waste should be able to provide the ERI with the necessary documents to proof that they are permitted to handle and transport the waste and with a certificates of safe disposal.
- Where waste transport contractors are used the onus lies on the waste generator (ERI) to ensure that the required information is correctly filled out on the waste manifest.

3.6 Disposal of waste

Pollution of the environment and harm to health must be prevented by not:

- Disposing waste or permitting waste to be disposed of on any land, water-body or at any facility that is unauthorised for the disposal of waste or a specific type of waste;
- Throwing, dropping, depositing, spilling or in any other way discarding any litter into or onto any public place, land, vacant erf, stream, watercourse, street or road, or on any place to which the general public has access, except in a container or a place specifically provided for such disposal;
- Disposing of waste in a manner that is likely to cause pollution of the environment or harm to health and well-being (e.g. the burning or burying of waste);
- Hazardous waste is to be disposed of at authorised hazardous waste disposal landfill sites. ERI must obtain copies of the authorisation of the landfill sites where KWS is disposed.

3.7 Waste Manifest

ERI must ensure that they are in possession of waste manifest documents of all waste that has been classified as hazardous.

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3.8 Waste Classification

In line with the requirements of the Waste Classification and Management Regulations: GN R 634 of 23 August 2013, waste must be classified in accordance with SANS 10234 within 180 days of generation (except for the waste listed in Annexure 1 of the regulations).

3.9 Waste Reporting

At a minimum, a waste register including the waste types,, quantities disposed of, quantities recycled, disposal destinations, and safe disposal certificates, , cost for handling, transportation or disposal must be kept on site.

ERI must record and submit waste report to PED on monthly basis in accordance to the Eskom waste register.

3.10 General

Hazardous Waste (including old oil) may not be disposed of into any drain or into the surrounding environment. The burning of waste, including paper and oil rags is prohibited. When handling or storing waste, attention must be given to the risk of fire, explosion, burns, chemical fires toxic fumes, chemical reactions, loss of life and damage to company property. All health and safety aspects must be considered when handling waste and the required PPE must be worn at all times when handling such substances.

4. Acceptance

This document has been seen and accepted by:

Name	Designation
Thabang Ntjoboko	Middle Manager: Environmental
Dan Govender	Middle Manager: Engineering

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5. Revisions

Date	Rev.	Compiler	Remarks
November 2017	1	Thabang Ntjoboko	Developed to document the Komati Water Scheme Waste Management Process
February 2020	2	Shumani Mavhungu.	Document revised to address audit findings

6. Development Team

The following people were involved in the development of this document:

- Shumani Mavhungu
- Zoleka Mpina
- Vathiswa Mati
- Vuyazi Mongwe

7. Acknowledgements

This Work Instruction has been adapted from Eskom Waste Management Standard 32-245.

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