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HIGH-LEVEL WASTE MANAGEMENT PROCEDURE

Minetek Newcastle Coal Project

1 Definitions

acceptable exposure	means the exposure of the maximum permissible concentration of a substance to the environment that will have a minimal negative effect on health or the environment;
best practicable environmental option	means the option that provides the most benefit or causes the least damage to the environment as a whole, at a cost acceptable to society, in the long term as well as in the short term
business waste	means waste that emanates from premises that are used wholly or mainly for commercial, retail, wholesale, entertainment or government administration purposes
container	means a disposable or re-usable vessel in which waste is placed for the purposes of storing, accumulating, handling, transporting, treating or disposing of that waste, and includes bins, bin-liners and skips;
disposal	means the burial, deposit, discharge, abandoning, dumping, placing or release of any waste into, or onto, any land;
environmentally sound management	means the taking of all practicable steps to ensure that waste is managed in a manner that will protect health and the environment;
high-risk activity	means an undertaking, including processes involving substances that present a likelihood of harm to health or the environment;
holder of waste	means any person who imports, generates, stores, accumulates, transports, processes, treats or exports waste or disposes of waste;
incineration	means any method, technique or process to convert waste to flue gases and residues by means of oxidation;
minimisation	when used in relation to waste, means the avoidance of the amount and toxicity of waste that is generated and, in the

	event where waste is generated, the reduction of the amount and toxicity of waste that is disposed of;
recovery	means the controlled extraction or retrieval of any substance, material or object from waste;
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;
storage	means the accumulation of waste in a manner that does not constitute treatment or disposal of that waste;
Waste *Note: Relevant parts of Schedule 3 have been included in the next section for ease of reference	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 re-used, recycled or recovered and includes all wastes as defined in **Schedule 3** to this Act; 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 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.
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;
waste minimisation programme	means a programme that is intended to promote the reduced generation and disposal of waste;
waste treatment facility	means any site that is used to accumulate waste for the purpose of storage, recovery, treatment, reprocessing, recycling or sorting of that waste.
SCHEDULE 3: DEFINED WASTES Definition of 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 as outlined below:
	4. Wastes from petroleum refining, natural gas purification and pyrolytic treatment of coal
	6 (f) wastes from the manufacture, formulation, supply and use (MFSU) of fats, grease, soaps, detergents, disinfectants and cosmetics.
	9(a) wastes from MFSU and removal of paint and varnish
	9(d) wastes from MFSU of adhesives and sealants (including waterproofing products)
	12: Oil wastes and wastes of liquid fuels (except edible oils) including waste hydraulic oils, waste engine, gear and lubricating oils, waste insulating and heat transmission oils, oil/water separator contents etc.
	14: hazardous portion of wastes from end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance.

	15(a) wastes from bituminous mixtures, coal tar and tarred products
	16: Health Care Waste
	Waste from mineral excavation, physical or chemical treatment of minerals, and wastes from drilling muds and other drilling operations.

2 Waste Inventory

It is the responsibility of the Environmental Officer (EO) to compile and maintain a Waste Inventory at the Mine. The EO may request persons responsible for different areas of the operation to assist in the compilation of the Waste Inventory. The Waste Inventory will include an identification of the waste (name), a description of how it is generated (source), a classification of whether the waste is hazardous or not, a danger group rating, a description of where the waste is to be stored on site and a description of where the waste will ultimately be disposed of.

Danger Groups / Classes are shown below.

A template for the waste inventory is provided in Appendix 1: Waste Inventory Template.

2.1 Danger group/class

For transport purposes hazardous substances are listed in SANS 10228, which lists over 4000 hazardous substances, each assigned with a danger group/class. The Standard forms the basis of the present system for classifying Hazardous Waste. Hazardous substances are divided into nine danger groups/classes as per SANS 10228:

- Class 1 – Explosives
- Class 2 – Gases
- Class 3 – Flammable liquids
- Class 4 – Flammable solids
- Class 5 – Oxidising substances and organic peroxides
- Class 6 – Toxic and infectious substances
- Class 7 – Radioactive material
- Class 8 – Corrosives
- Class 9 – Miscellaneous dangerous substances and articles

2.2 Waste Classification

All non-mineral waste at The Mine will be classified as one of the following:

- General recyclable waste
- General non-recyclable waste
- Globes and fluorescent tubes

- Used batteries
- Scrap metal (non-contaminated)
- Rubber waste (non-contaminated)
- Medical Waste
- Recyclable hazardous waste (used oil etc.)
- Other Hazardous waste.

The classification shall be included in the waste manifest.

If there is any doubt as to whether a certain waste is hazardous, it will be treated as a hazardous waste until it can be confirmed by a suitably qualified person that the waste is not hazardous.

2.3 Waste handling – Site-wide

- Waste generated on site must be separated AT LEAST into separate receptacles for hazardous waste and non-hazardous waste.
- The person responsible for each area of the facility is responsible for ensuring that sufficient bins are available within their section.
- The EO will undertake a weekly inspection to each area to record the bins available, confirm the correct materials are stored in the correct bins, the bins are emptied as required, the bins are correctly labelled etc. and ensure corrective action is taken where shortcomings are noted.
- The EO will keep a written and photographic (where relevant) record of the inspections undertaken.
- Personnel will be designated to remove the contents of the bins throughout the site to the waste skips on a regular basis. Such transfer of waste must still ensure the separation of hazardous and general waste.
- Care must be taken when placing different types of hazardous waste into the receptacles to prevent spillages and mixing of non-compatible hazardous waste types – this implies the need for the designated employees to be trained in waste management and handling procedures.
- The EO will audit the state of the waste skip area weekly, including photographic records, to ensure wastes are stored correctly.
- The EO must regularly schedule the removal of waste skips from site and ensure the skips always have capacity as needed.
- The EO will keep records of Safe Disposal Certificates for ALL Hazardous Waste.
- All personnel involved in the disposal or transfer of waste will be provided with the appropriate Personal Protective Equipment (PPE) by the Health and Safety Manager / Officer.
- The EO must ensure that suitable spill kits and absorbent materials are available at all times for the containment and clearing of any spills. Relevant employees must be trained in the use of the spill kits.

2.4 Specific Waste Types

2.4.1 Medical Waste

Limited Medical Waste may be generated on site (first-aid). Under no circumstances shall any medical waste be disposed of with normal domestic waste or into any open pit. The Health and Safety Officer / First Aid Officer will be responsible for ensuring the safe disposal of any and all medical waste generated on site.

2.4.2 Tyres

Tyres include scrap and reusable tyres. These should be sent to a designated holding facility and stored in accordance with the Waste Tyre Regulations.

Reusable tyres should be sent to an authorised tyre dealer or supplier. Scrap tyres should be recycled to an authorised rubber recycler or can be used for demarcation purposes or erosion control on the Mine.

2.4.3 Used PPE

Used uncontaminated PPE (rubber) such as gumboots, rubber gloves, etc. can be disposed of as general waste or re-used as relevant.

Used PPE contaminated by e.g. poisonous solvents (chemical lab) or oil, grease, etc. should be disposed as Hazardous Waste.

2.4.4 Paint and cleaning liquids

These include leftover paint, paint contaminated containers, -brushes and –rags and cleaning liquids such as turpentine. No left-over/old paint, liquid cleaners, cleaning rags or empty paint tins may be placed in any scrap metal container or general waste bins. These must be disposed of as Hazardous waste.

2.4.5 Used oil, oily rags etc.

Used machine/vehicle filters should all be discarded into drums as hazardous waste.

All used oil generated at the Service Bays and Workshops, shall be stored in designated storage tanks and periodically transferred to collection and storage points for collection and disposal by an authorised contractor. Under no circumstances may any oil be released directly into the ground. All oil generated from field equipment such as trackless equipment, LDV's, earthmoving equipment, plant equipment etc. serviced in the field (only in emergency breakdown situations) will be decanted into containers and sent to the storage points. When transporting oil containers to the service bay, care must be exercised at all times to prevent pollution or contamination of the environment.

All used grease generated in the field or workshops must be placed in drums / dedicated containers. Used oil/grease rags must be placed in drums and not washed, buried or burnt.

3 Waste Management Contractors

- The company(s) that removes hazardous waste from site must be contracted in writing, detailing their specified duties and committed compliance to the EMPr and relevant legislative requirements.
- Ensure that loading procedures and load safety are in place. The transport company vehicle needs to be in a good condition and suited to the type of waste to be transported.
- Emergency procedures should be available and made known to the driver(s) upon entry to the site.

4 Monitoring and Reporting Requirements

Each responsible person for each area of the site shall keep record of the volumes of general and hazardous waste generated in their areas – the EO should implement a system to assist in record keeping (by delegating this responsibility to the designated personnel responsible for removing bins from specific areas, for example).

The EO will register the site on the South African Waste Information System (SAWIS) – as all mines are category 1 data providers in terms of the legislation, volumes and types of wastes will be reported to SAWIS as required.

Appendix 1: Waste Inventory Template

Name of the Waste	Source of the Waste	Hazardous?	Danger Group Rating	Classification	Temporary Storage Location	Disposal method and Location
e.g. Used office paper	Offices	NO	-	General Recyclable Waste	Bins at Office, then general waste skip	Municipal Landfill
e.g. Used oils	Workshop	YES	Class 4	Recyclable hazardous waste	Hazardous bin at Workshop, then Hazardous Waste Skip	Removed from site for recycling by XX Company