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**DEPARTMENT OF FORESTRY, FISHERIES AND THE ENVIRONMENT**

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**NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT, 2008****(ACT NO. 59 OF 2008)****NATIONAL NORMS AND STANDARDS FOR ORGANIC WASTE COMPOSTING**

I, Barbara Dallas Creecy, Minister of Forestry, Fisheries and the Environment, in terms of sections 7(1)(c) and 7(2)(a) of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), hereby set the national Norms and Standards for organic waste composting for implementation, as set out in the Schedule hereto.



**BARBARA DALLAS CREECY**  
**MINISTER OF FORESTRY, FISHERIES AND THE ENVIRONMENT**

**SCHEDULE****TABLE OF CONTENTS**

1. DEFINITIONS
2. PURPOSE
3. APPLICATION OF THE NATIONAL NORMS AND STANDARDS
4. APPLICATION FOR THE ESTABLISHMENT OF AN ORGANIC WASTE COMPOSTING FACILITY
5. REQUIREMENTS FOR THE DESIGN AND CONSTRUCTION OF AN ORGANIC WASTE COMPOSTING FACILITY
6. REQUIREMENTS FOR SECURITY AND ACCESS CONTROL
7. REQUIREMENTS DURING OPERATIONAL PHASE
8. GENERAL REQUIREMENTS
9. TRAINING AND CAPACITY BUILDING
10. MANAGEMENT OF EMERGENCY SITUATIONS
11. MONITORING, AUDITING AND REPORTING
12. REQUIREMENTS DURING DECOMMISSIONING PHASE
13. TRANSITIONAL ARRANGEMENTS
14. SHORT TITLE AND COMMENCEMENT

## 1. DEFINITIONS

In these Norms and Standards, any word or expression to which a meaning has been assigned in the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) has the meaning so assigned, and unless the context otherwise indicates —

**“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;

**“compost”** is a product of controlled aerobic, biological decomposition of biodegradable materials. The organic waste undergoes mesophilic and thermophilic temperatures, which significantly reduces the viability of pathogens and weed seeds, and stabilizes the carbon such that it is beneficial to plant growth;

**“compostable organic waste”** means carbon-based materials of animal or plant origin that naturally enhances fertility of soil but excludes human made organic chemicals and naturally occurring organic chemicals which have been refined or concentrated by human activity, and health-care risk waste;

**“composting”** means a controlled biological process in which organic materials are broken down by micro-organisms by means of an aerobic and anaerobic processes to produce compost or fertiliser;

**“containment barrier”** refers to a suitable surface on which organic waste is processed through composting which protects the environment from potential contamination with excessive nutrients;

**“environmental authority”** means any person or representatives from a national, provincial and local government authorised to conduct an inspections or audits at the facility;

**“fertilizer”** means any substance which is intended or offered to be used for improving or maintaining the growth of plants or the productivity of the soil;

**“handling”** means functions associated with the movement of waste, including storage, treatment, transportation and ultimate disposal, by the use of manual systems or mechanical systems;

**“hazardous organic waste”** means any waste that contains organic elements or compounds that may, owing to their inherent physical, chemical or toxicological characteristics of that waste, have a detrimental impact on human health and the environment, and has been classified in terms of the Waste Classification and Management Regulations in accordance to SANS 10234;

**“infectious organic waste”** means organic waste which contains or may be reasonably presumed to contain pathogens which normally cause or significantly contribute to the cause of morbidity or mortality in human beings;

**“leachate”** means water that has percolated through and/or been generated by decomposition of organic waste material;

**“local authority”** means the district or local municipality that governs waste by-laws and environmental health matters in the relevant geographical area;

**“monitoring”** means continuous or non-continuous measurement of a concentration or other parameters for purpose of assessment or control of environmental quality or exposure and the interpretation of such measurements;

**“national authority”** means the national department responsible for the environment;

**“non-conforming waste”** means organic or inorganic waste that is not permitted to be processed at the composting facility in terms of the facility’s approved environmental management programme or waste that has been determined by the composting facility operator not to be accepted; or waste that is otherwise not suitable as per these Norms and Standards.”

**“offensive odour”** means any smell which is considered to be malodorous or a nuisance to a reasonable person.

**“organic fertilizer”** means a fertilizer manufactured from substances of animal or plant origin, or a mixture of such substances, and that is free of any substances that can be harmful to man, animal, plant or the environment containing at least 40 g/kg prescribed plant nutrients;

**“organic sludge”** means a thick, soft, wet mud or a similar viscous mixture of liquid and solid components consisting mainly of organic matter, including treated sewage sludge;

**“organics”** means both processed and unprocessed compostable organic waste;

**“organic waste”** means waste of biological origin which can be broken down, in a reasonable amount of time, into its base compounds by micro-organisms and other living things;

**“premises”** means a building or structure, land or an area (whether enclosed or not), or a mobile plant; and

**“provincial authority”** means the provincial department responsible for the environment and the authority governing the implementation of composting facility plans and design, audit assessments and compliance and enforcement matters.

## **2. PURPOSE**

- (1) The purpose of these Norms and Standards is to--
  - (a) provide a national uniform approach relating to controlling the composting of organic waste at a facility that falls within the threshold in order to prevent or minimise potential negative impacts on the bio-physical and socio-economic environment; and
  - (b) ensure implementation of the best practicable environmental option in the composting of organic waste.

## **3. APPLICATION OF THE NATIONAL NORMS AND STANDARDS**

- (1) These Norms and Standards apply to organic waste composting facilities that have the capacity to process compostable organic waste, in excess of 10 tonnes per day.

- (2) The owner of an organic waste composting facility with a capacity to process less than 10 tonnes per day of organic waste must register in terms of clause 3(3) of these Norms and Standards, and align with the requirements of applicable integrated waste management by-laws, and comply with the principle of duty of care as contained in section 28 of the National Environmental Management Act, 1998 (Act No. 107 of 1998).
- (3) The application must as a minimum include--
  - (a) The name of the owner/operator of the facility where the activity is intended to take place;
  - (b) The name of the land owner;
  - (c) The identification number of the owner/operator or the company registration number of the composting facility;
  - (d) Contact details of both the facility owner/operator and the land owner;
  - (e) The location of the facility in terms of the name of the local municipality, Erf number and geographical coordinates;
  - (f) The size of the facility;
  - (g) The proximity of the facility to the nearest residential area; and
  - (h) The land use or zoning.
- (4) An organic waste composting facility must comply with these Norms and Standards without the requirement of obtaining a waste management licence in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008).

#### **4. APPLICATION FOR THE ESTABLISHMENT OF AN ORGANIC WASTE COMPOSTING FACILITY**

- (1) An application to establish an organic waste composting facility must be submitted to the relevant provincial authority.
- (2) An environmental management programme compiled by the facility owner or environmental consultant must clearly describe the composting processes and measures to be put in place to protect both people and the environment.
- (3) The environmental management programme must form part of the application to be approved by the provincial authority.
- (4) Approval of the design plans, waste types to be composted and operational processes to be used must be obtained from the provincial authority before commencing with any composting activity.
- (5) Building plans approved by the local authority for the establishment of an organic waste composting facility must be submitted with the application to the provincial authority.
- (6) The provincial authority has a period of 90 days to process an application and it is the responsibility of the applicant to ensure that all the necessary documents are submitted to the provincial authority with the application.
- (7) A compost facility operator must notify the local authority 14 days prior to commencement of construction of a composting facility to obtain proof of permission from the local authority, to construct and operate the composting facility prior to commencement of construction.

#### **5. REQUIREMENTS FOR THE DESIGN AND CONSTRUCTION OF AN ORGANIC WASTE COMPOSTING FACILITY**

- (1) An organic waste composting facility must not be constructed in an environmentally sensitive area such as a floodplain, water resource, wetland and any other conservation or protected area, and it must conform to zoning requirements as determined by the relevant local authority.
- (2) An organic waste composting facility must be constructed in an area that is accessible to emergency response personnel and equipment.
- (3) Containment barriers must be risk based, and the type of waste to be processed and the immediate receiving environment must be considered to quantify the type of containment barriers to put in place in consultation with the provincial authority. The containment barriers must be practical and be able to withstand the heavy machinery associated with the composting activities where applicable.
- (4) If required, based on the composting method that will be used, a leachate collection system must be designed, and it must prevent both ground and surface water pollution, soil pollution and odour problems.
- (5) The construction and operational times, as well as noise levels must comply with relevant applicable legislation, including municipal by-laws in order to minimise the impact of noise on the surrounding properties.
- (6) The approach road to the organic waste composting facility must have a hard surface for heavy vehicles, offloading compostable material, to prevent muddy areas during the wet seasons.
- (7) An area under construction must be demarcated to prevent unauthorised access during the construction phase.
- (8) An organic waste composting facility must be designed and constructed in such a manner that the finished compost which has been fully treated is not contaminated with the run-off from untreated or partially treated compost, waste or raw materials.
- (9) The design of an organic waste composting facility must include diverting stormwater from rainfall events, away from the working or storage area.

## **6. REQUIREMENTS FOR SECURITY AND ACCESS CONTROL**

- (1) The site must be fenced off and secured in a manner that will prevent unauthorised entry to the areas of the organic waste composting facility used for receiving, storing and processing of organics, process residuals and contaminated materials.
- (2) Incoming raw materials must be inspected before entering the facility and the composting system.
- (3) Upon inspection, non-conforming waste must be diverted to a relevant licensed waste management facility.

## **7. REQUIREMENTS DURING OPERATIONAL PHASE**

- (1) Minimisation of airborne emissions
  - (a) Operational measures must be put in place to immediately blend a carbon source or cover with mature compost any highly biodegradable organics such as food waste, organic sludge and putrescible waste to minimise offensive odour emissions that may be generated by potentially odorous waste.
  - (b) Un-surfaced roads, un-grassed or un-paved areas, which give rise to dust, must be regularly watered or other effective dust control measures implemented, to restrict dust to levels which do not pose a threat to human health or the environment. Speed reducing measures such as speed humps and speed limit signage must be introduced.
  - (c) Organics that are being processed must always be kept reasonably moist (at least 25% (m/m) moisture content) to minimise the emissions of airborne pathogens.



- (d) Emissions of methane in aerobic processes must be controlled by keeping the organics being processed adequately aerated.
  - (e) The schedule of turning of the compost should depend on the composting method being employed at the facility and must conform to the environmental management programme.
  - (f) Facility management must put measures in place to control high concentrations of airborne particulate matter during pre-treatment (shredding and mixing) of dry organics.
  - (g) Employees at composting and related organic-processing operations must be protected against high levels of exposure to airborne particulate matter by ensuring that design features and operational measures are strictly followed and monitored, and appropriate personal protective equipment is worn by employees.
- (2) Management of waste generated at the organic waste composting facility
- (a) Any liquid and solid waste generated at the organic waste composting facility, including contaminated products and process residuals not suitable for beneficial processing at the organic waste composting facility, must be stored in such a manner as to prevent water and soil pollution and amenity impacts, in accordance with the requirements specified in the Norms and Standards for Storage of Waste published in terms of Government Notice No.926 in Government Gazette No. 37088, on 29 November 2013.
  - (b) Organic waste composting facilities must comply with the following requirements for the management of waste—
    - (i) Waste generated at the composting facility must be sorted at source into various categories (recyclables and non-recyclables) and a documented procedure must be implemented to prevent any mixing of hazardous and general waste;
    - (ii) Liquid waste must be stored in leak resistant containers which must be inspected weekly for early detection of leaks;
    - (iii) Leachate generated at a composting facility and excess water generated through receiving wet waste must be used on site to increase the moisture content of compost heaps to facilitate decomposition;
    - (iv) Excess water generated from rainfall, must be used on site to control dust and the dust must not exceed the maximum allowable limits stipulated in the National Dust Control Regulations of Government Notice R.827 of Government Gazette 36974 of 01 November 2013;
    - (v) The liquid waste containers must be of sufficient strength and structural integrity to ensure that they are unlikely to burst or leak in their ordinary use;
    - (vi) Waste that is spilled or carried by wind during operation, handling or storage must be contained;
    - (vii) Hazardous waste must be stored in covered containers that are only opened when waste is added or emptied and the waste must not be kept at levels that trigger other listed activities;
    - (viii) On-site fuelling and servicing of construction equipment and motor vehicles must only occur on designated impermeable surface within a bunded area; and
    - (ix) Organic waste composting facilities must register with a Waste Information System in terms of the National Waste Information System Regulations, 2012 published under Government Notice No. R. 625 in Government Gazette No.35583 on 13 August 2012.
- (3) Stockpiling of incoming and processed organics

- (a) The quantities (tonnage or kilograms) of incoming and process waste must at all times not exceed the design requirements for the receiving storage and processing areas.
  - (b) The mass (tons or metric tons) of all incoming compostable organic waste must be weighed or estimated by determining the density of the waste and multiplying it by the volume of waste received, and the records thereof must be safely kept at the facility or company office for a period of 5 years.
  - (c) Operational measures must be put in place to ensure that the storage times for organics are controlled to minimise emissions of offensive odours.
  - (d) Design and operational measures must prevent contamination of final products.
  - (e) Other waste streams that have accumulated on site, such as packaging or mixed waste streams must not be stored on site for more than 2 weeks.
- (4) Fire and methane gas management
- (a) A fire management plan or strategy must be in place and at least contain the following:
    - (i) Sufficient fire-fighting equipment that is kept in good working conditions and appropriate personal protective equipment for fire safety must be available at the facility at all times;
    - (ii) There must be clear signage indicating where the fire-fighting equipment is in relation to compost heaps and the equipment must be within a 10 m distance;
    - (iii) Identified sources of fires that may result at the facility and appropriate operational procedures to be undertaken to bring the fire under control;
    - (iv) A firebreak with a predetermined width as per the relevant legislation, Local Authority by-laws or Fire Protection Agency or barrier constructed around the perimeter of the site to avoid the spread of fires;
    - (v) Clear signs in at least two prevalent languages spoken within the area must be in place and should inform the public that flammable substances are not permitted on the site.
  - (b) The design and operation of aerobic composting must ensure that the generation of methane is minimised.
  - (c) The design and operational procedures for the organic waste composting facility must ensure that heap heights are limited and heaps are monitored for excessive high temperatures to prevent spontaneous combustion.
- (5) Minimising amenity impacts
- (a) The organic waste composting facility operator must put in place measures to control pests.
  - (b) Weeds must be prevented from proliferating at the premises.
  - (c) Composting facilities that receive alien or invasive vegetation must ensure that seeds do not survive in the compost through seed germination testing.
- (6) Water pollution prevention
- (a) The organic waste composting facility must be designed and operated in such a manner that surface water and other waste streams are prevented from mixing with organic waste received, processed and stored at the premises, including the final product.
  - (b) All water that has entered the processing and storage areas must be handled and treated as leachate.
- (7) Safe storage and disposal
- (a) The design of the organic waste composting facility must include infrastructure to securely store all organics, contaminated products, waste and process residues that cannot be



beneficially processed at the facility, until they can be lawfully disposed of at the facility or transferred to another facility.

- (b) Proof of waste recycled and all safe disposal certificates including waste manifests must be kept on site at all times.

## **8. GENERAL REQUIREMENTS**

- (1) These Norms and Standards do not replace any other relevant requirements stipulated in terms of other legislation.
- (2) All infrastructure required for the composting operations must be maintained to ensure that it functions effectively and in accordance with the operational requirements and design parameters.
- (3) Pollution of the biological and physical environments (including habitats for animal and plant species, water resources, land, soil and air) as a result of operations within the facility must at all times be prevented.
- (4) General waste generated during the construction, operation and decommissioning phases of the facility must be managed at a legally compliant waste management facility.
- (5) A Safety Data Sheet for each of the chemical products utilised at the facility must be kept on site and in easily accessible location to employees.
- (6) All compost intended for use as fertilisers must be registered with the national department responsible for agriculture and must meet all the necessary requirements in terms of the Regulations Regarding Fertilisers, published in Government Notice No. R.732 in Government *Gazette* No. 35666 on 10 September 2012 issued in terms of the Fertilizers, Farms Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act No. 36 of 1947), including any amendment.
- (7) A complaints register must be kept on site during the construction and operational phases as well as details regarding the manner in which the complaints are being addressed.
- (8) Employees must wear protective clothing when required as prescribed by the composting facility's environmental management programme.
- (9) An incident register must be kept at the facility at all times.
- (10) Proper ablution and decontamination facilities, for management and staff, must be provided onsite.

## **9. TRAINING AND CAPACITY BUILDING**

- (1) A person responsible for managing a composting facility must, during the safety, health and environment induction of all new employees, train such employees on waste management in order to identify, prevent, minimise or manage actions or behaviours that are likely to cause adverse impacts on air, water, land, fauna and flora as a result of construction, operation and decommissioning of the facility.
- (2) Members of staff at an organic waste composting facility must be trained to manage all types of waste in accordance with the provisions of these Norms and Standards and any other relevant legislative requirements applicable to composting facilities.
- (3) Organic waste composting facility staff members must be trained in fire-fighting techniques.

## **10. MANAGEMENT OF EMERGENCY SITUATIONS**

- (1) Emergency response measures must be put in place to deal with any eventuality of fires resulting from the working surfaces or at any other area within the facility.
- (2) All incidents which fall within the ambit of section 30 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) must be dealt with in accordance with that section and must be

reported to the relevant competent authority.

## **11. MONITORING, AUDITING AND REPORTING**

- (1) The site must be inspected by the facility operators or employees on a daily basis to ensure early detections and addressing of environmental pollution and weekly reports consolidating the daily inspections' findings should be kept on site.
- (2) Compost heap temperature that is high enough to destroy pathogens for the applicable composting method must be maintained and monitored for a time period required for such composting method.
- (3) The national, provincial and local authorities must be given access to audit or inspect the facility at any time and at such frequency as the authority may decide.
- (4) The audit or inspection reports drafted by the environmental authority must be made available to the facility operator within sixty (60) days of the audit or inspection.
- (5) The composting facility manager must, during the audit or inspection, make any records or documentation available to the audit or inspection team as may be required.
- (6) Safe disposal certificates for hazardous waste removed from facility must be kept on record for a minimum period of five (5) years.
- (7) A record of any finding of non-compliance by the environmental authority and how such non-compliances were addressed must be kept in a file and produced upon request by any relevant competent authority.
- (8) Internal audits detailing environmental performance of the facility must be conducted every twelve (12) months by the composting facility and official reports thereof must be prepared. Each of the internal audit findings must be made available to the external auditor referred to in sub-paragraph (9) below and to the environmental authority upon request. Audit reports must be in the format specified by the provincial authority.
- (9) The composting facility must ensure that external audits of the facility are conducted every twenty four (24) months by an independent auditor and the auditor must prepare an official audit report documenting the audit findings.
- (10) The external audit report must be submitted to the provincial authority upon request and must include, but not limited to the following:
  - (a) An indication of compliance of the facility with these Norms and Standards and the composting facility's environmental management programme as approved by the provincial authority;
  - (b) An indication of compliance with any specific requirements issued by the relevant authority either at national, provincial or local sphere of government;
  - (c) An indication of any major environmental incidents or non-compliance that occurred and details of the manner the incidents or non-compliance were addressed;
  - (d) An indication of the presence of records of safe disposal certificates for all hazardous and general waste removed from the facility; and
  - (e) An indication if hazardous waste is separated from general waste and that such waste is removed by a registered waste handling company for either recycling or disposal at licenced disposal facility.

## **12. REQUIREMENTS DURING DECOMMISSIONING PHASE**

- (1) A facility to be discontinued, for whatever reasons, must be rehabilitated to the satisfaction of the provincial authority.
- (2) A decommissioning plan for the facility, including the indication of end-use of the area must be developed and submitted to the provincial authority 3 months prior to commencement with

- decommissioning.
- (3) The site must be rehabilitated according to the decommissioning plan as approved by the provincial authority.
  - (4) All equipment must be removed from the site, unless demonstrations are made that the equipment that remains will not have the potential to cause environmental impacts and is needed for subsequent uses of the site.
  - (5) The organic waste composting facility manager will remain responsible for any adverse impacts on the environment resulting from composting activities, even after operations have ceased.

### **13. TRANSITIONAL ARRANGEMENTS**

A person who lawfully conducted an organic waste composting activity prior to and on the date of commencement of these Norms and Standards must continue with the activity for the duration as stipulated in the approval, authorisation or licence and after the expiry of the approval, authorisation or licence, must comply with the provisions of these Norms and Standards.

### **14. SHORT TITLE AND COMMENCEMENT**

These Norms and Standards are called the Norms and Standards for organic waste composting, 2020, and will come into operation on the date to be determined and published by Minister in the *Gazette*.