

غير المتفقة مع مضمونه.

المادة ٥ - نشر القرار والعمل به

ينشر هذا القرار ويعمل به فور نشره في الجريدة الرسمية ويبلغ حيث تدعو الحاجة.

بيروت في ١٨ آذار ٢٠٢٤

وزير البيئة

د. ناصر ياسين

للاطلاع على مرفقات هذا القرار الدخول على الرابط

التالي: www.Pcm.gov.Lb

قرار رقم ١/٢٦

المعايير والشروط الدنيا المتعلقة بعملية

التسبيخ والتفكك البيولوجي

إن وزير البيئة،

بناءً على المرسوم رقم ٨٣٧٦ تاريخ ٢٠٢١/١٠/١٠ (تشكيل الحكومة)،

بناءً على القانون رقم ٢١٦ تاريخ ١٩٩٣/٤/٢ (إحداث وزارة البيئة)، لا سيما المادة الأولى منه،

بناءً على القانون رقم ٤٤٤ تاريخ ٢٠٠٢/٧/٢٩ (حماية البيئة)،

بناءً على القانون رقم ٦٩٠ تاريخ ٢٠٠٥/٨/٢٦ (تحديد مهام وزارة البيئة وتنظيمها)،

بناءً على القانون رقم ٨٠ تاريخ ٢٠١٨/١٠/١٠ (قانون الإدارة المتكاملة للنفايات الصلبة)، لا سيما

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رقم ٢٠٢٣/٦١-٢٠٢٤ تاريخ ٢٠٢٤/١/٢٣، الرأي رقم ٢٠٢٣/٨٨-٢٠٢٤ تاريخ ٢٠٢٤/٢/٢٢)،

يقرر ما يأتي:

المادة ١ - تحديد المعايير والشروط الدنيا

تحدد المعايير والشروط الدنيا الواجب التقيد بها بالنسبة لعملية التسبيخ والتفكك البيولوجي وفق أحكام الملحق المرفق.

يتوجب على كل جهة تتولى معالجة النفايات الصلبة البلدية من خلال التسبيخ والتفكك البيولوجي اتخاذ الاجراءات الضرورية لوضع هذه المعايير والشروط الدنيا موضع التنفيذ.

المادة ٢ - الملحق

يعتبر الملحق المرفق بهذا القرار جزءاً لا يتجزأ منه.

المادة ٣ - حق فرض معايير وشروط جديدة

تحتفظ وزارة البيئة بحق فرض معايير وشروط جديدة أو تعديل اي منها عندما تدعو الحاجة.

المادة ٤ - الغاء القرارات المخالفة

تلغى كافة القرارات المخالفة لأحكام هذا القرار أو غير المتفقة مع مضمونه.

المادة ٥ - نشر القرار والعمل به

ينشر هذا القرار ويعمل به فور نشره في الجريدة الرسمية ويبلغ حيث تدعو الحاجة.

بيروت في ١٨ آذار ٢٠٢٤

وزير البيئة

د. ناصر ياسين

للاطلاع على مرفقات هذا القرار الدخول على الرابط

التالي: www.Pcm.gov.Lb

قرار رقم ١/٢٧

المعايير والشروط الدنيا المتعلقة بعملية انتاج

الوقود من النفايات

إن وزير البيئة،

بناءً على المرسوم رقم ٨٣٧٦ تاريخ ٢٠٢١/١٠/١٠ (تشكيل الحكومة)،

بناءً على القانون رقم ٢١٦ تاريخ ١٩٩٣/٤/٢ (إحداث وزارة البيئة)، لا سيما المادة الأولى منه،

بناءً على القانون رقم ٤٤٤ تاريخ ٢٠٠٥/٧/٢٩ (حماية البيئة)،

بناءً على القانون رقم ٦٩٠ تاريخ ٢٠٠٢/٨/٢٦ (تحديد مهام وزارة البيئة وتنظيمها)،

بناءً على القانون رقم ٨٠ تاريخ ٢٠١٨/١٠/١٠ (قانون الإدارة المتكاملة للنفايات الصلبة)، لا سيما

المادة ٢٢ - ب منه،

وبعد استشارة مجلس شورى الدولة (الرأي رقم ٢٠٢١/٩١-٢٠٢٢ تاريخ ٢٠٢٢/٢/٢٢، الرأي

رقم ٢٠٢٣/٦١-٢٠٢٤ تاريخ ٢٠٢٤/١/٢٣، الرأي رقم ٢٠٢٣/٨٨-٢٠٢٤ تاريخ ٢٠٢٤/٢/٢٢)،

يقرر ما يأتي:

المادة ١ - تحديد المعايير والشروط الدنيا

تحدد المعايير والشروط الدنيا الواجب التقيد بها بالنسبة لعملية انتاج الوقود من النفايات وفق أحكام الملحق المرفق.

بيروت، في

قرار رقم المعايير والشروط الدنيا المتعلقة بعملية التسيخ والتفكك البيولوجي

إن وزير البيئة،
بناءً على المرسوم رقم 8376 تاريخ 2021/10/10 (تشكيل الحكومة)،
بناءً على القانون رقم 216 تاريخ 1993/4/2 (إحداث وزارة البيئة)، لا سيما المادة الأولى منه،
بناءً على القانون رقم 444 تاريخ 2002/7/29 (حماية البيئة)،
بناءً على القانون رقم 690 تاريخ 2005/8/26 (تحديد مهام وزارة البيئة وتنظيمها)،
بناءً على القانون رقم 80 تاريخ 2018/10/10 (قانون الإدارة المتكاملة للنفايات الصلبة)، لا سيما المادة 22-ب منه،
وبعد استشارة مجلس شورى الدولة (الرأي رقم 2022-2021/91 تاريخ 2022/2/22، الرأي رقم 2023/61-2024 تاريخ 2024/1/23، الرأي رقم 2024-2023/88 تاريخ 2024/2/22)،

يقرر ما يلي:

المادة 1 - تحديد المعايير والشروط الدنيا
تحدد المعايير والشروط الدنيا الواجب التقيد بها بالنسبة لعملية التسيخ والتفكك البيولوجي وفق أحكام الملحق المرفق.

يتوجب على كل جهة تتولى معالجة النفايات الصلبة البلدية من خلال التسيخ والتفكك البيولوجي اتخاذ الاجراءات الضرورية لوضع هذه المعايير والشروط الدنيا موضع التنفيذ.

المادة 2 - الملحق
يعتبر الملحق المرفق بهذا القرار جزءاً لا يتجزأ منه.

المادة 3 - حق فرض معايير وشروط جديدة
تحتفظ وزارة البيئة بحق فرض معايير وشروط جديدة أو تعديل أي منها عندما تدعو الحاجة.

المادة 4 - إلغاء القرارات المخالفة
تلغى كافة القرارات المخالفة لأحكام هذا القرار أو غير المتفقة مع مضمونه.

المادة 5 - نشر القرار والعمل به
ينشر هذا القرار ويعمل به فور نشره في الجريدة الرسمية ويبلغ حيث تدعو الحاجة.

وزير البيئة
د. ناصر ياسين

Standards and Conditions for the composting and biological disintegration process

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1 Scope

This regulation aims to establish minimum standards and conditions for facilities where municipal solid waste is processed through mechanical recycling (further called Composting & Biological Disintegration Facilities or CBF)

These guidelines apply to the implementation of CBFs for residential, commercial, and institutional wastes and non-hazardous organic sludges. These guidelines are applicable for both stand-alone CBFs or CBFs as a part of a more complex facility that combines different treatment methods

The role of CBFs in solid waste management and the relevant technological options are described in Annex 1.

2 Definitions

For the implementation of this Decree, additionally, to the definitions of article 1 of Law No 80 "Integrated Solid Waste Management" dated 10 October 2018, the following definitions apply:

1. **Municipal waste:** means waste from households, as well as other waste which, because of its nature or composition, is like waste from households.
2. **Household Waste** is defined as waste produced within the curtilage of a building or self-contained part of a building used for the purposes of living accommodation.
3. **Blowaste** is defined as biodegradable garden and park waste, food and kitchen waste from households, restaurants, caterers and retail premises, and comparable waste from food processing plants. It does not include forestry or agricultural residues, manure, sewage sludge, or other biodegradable waste such as natural textiles, paper, or processed wood. It also excludes those by-products of food production that never become waste.
4. **Food waste:** The organic residues generated by the handling, storage, sale, preparation, cooking, and serving of foods.
5. **Green Waste:** Waste vegetation and plant matter from household gardens, local authority parks and gardens and commercial landscaped gardens.
6. **Feedstock:** means waste that contains organic materials which decompose biologically.
7. **Biodegradation:** A process where organic materials are degraded by microorganisms.
8. **Biodegradable waste:** Any waste that can undergo anaerobic or aerobic decomposition, such as food and garden waste, paper, and paperboard etc.
9. **Residual Waste:** The fraction of collected waste remaining after a treatment or diversion step, which generally requires further treatment or disposal.
10. **Treatment/ Pre-Treatment** includes, in relation to waste, any manual, thermal, physical, chemical, or biological processes that change the characteristics of waste in order to reduce its volume, or hazardous nature or facilitate its handling, disposal or recovery.
11. **Biological Treatment:** means composting, anaerobic digestion, mechanical-biological treatment, or any other biological treatment process for stabilising and sanitising biodegradable waste, including pre-treatment processes.
12. **Stabilised (stable):** the degree of processing and biodegradation at which the rate of biological activity has slowed to an acceptably low and consistent level and will not significantly increase under favourable, altered conditions
13. **Mixed Solid Waste biological treatment facility** shall mean a Solid Waste Management Facility that utilises organic waste recycling by producing compost or/and energy from the biodegradable portion of a mixed solid waste input stream.

It excludes Residual Waste treatment facilities which solely use mechanical processes ("Dirty MRFs") but includes facilities which incorporate autoclaves and associated treatment. It excludes In Vessel Composting and Anaerobic Digestion ("AD") facilities designed solely for the treatment of source segregated organic wastes - e.g. food waste, garden waste, industrial effluents etc.

10. **Compost Like product (CLO):** It is humus-like product of mixed solid waste biological treatment facility and it is also referred to as 'stabilised biowaste' or a soil conditioner; it is not the same as a source segregated waste derived 'compost' or 'soil improver' that will contain much less contamination and has a wider range of end uses
11. **Composting:** is the process of controlled decomposition of biodegradable materials (a mixture of various decaying organic substances, as dead leaves or manure) into a humus-like product under managed conditions that are predominantly aerobic and that allow the development of thermophilic temperatures because of biologically produced heat.
12. **Curling area:** An area where organic matter which has undergone the rapid initial stage of composting is further matured into a humus-like material.
13. **In-vessel system:** Any compost system in which feedstock is contained in a vessel or reactor.
14. **Windrow system:** A compost system in which feedstock is placed in elongated piles of triangular or trapezoidal cross-section that are turned in order to enhance convective airflow, to control temperatures and to blend the feedstock.
15. **Aerated static pile system:** A composting system in which a heap of feedstock is formed and subjected to forced or passive aeration to provide the aerobic biological decomposition of the organic matter.
16. **Compost** is the humus-like product (solid particulate material) that is the result of the biological decomposition and stabilization of organic materials under aerobic and thermophilic conditions (composting), that has been sanitized and stabilized and that confers beneficial effects when added to soil, used as a component of a growing medium, or is used in another way in conjunction with plants.
17. **Anaerobic digestion (AD)** is the process of controlled decomposition of biodegradable materials under managed conditions in the absence of oxygen, at temperatures suitable for naturally occurring mesophilic or thermophilic anaerobic and facultative bacteria species, that convert the inputs to biogas and digestate.
18. **Digestate:** The solid and/or liquid product resulting from the anaerobic digestion process and that has not undergone a post-digestion separation step to derive separated liquor and separated fibre.
1. **Mesophilic micro-organisms:** micro-organism species for which optimum growth temperatures are within the range 30 °C to 45 °C.
2. **Thermophilic microorganisms:** microorganism species for which optimum growth temperatures are within the range 45 °C to 80 °C.
3. **Competent authority:** A regulatory body authorised by the government of the Republic of Lebanon to monitor compliance with the national statutes and regulations and carry out duties on behalf of the government in compliance with the law.

3 General requirements

- (1) These Standards and Conditions apply to all composting, anaerobic digestion, or mixed solid waste biological treatment facilities, thereof the "Facility". The facility shall also operate in accordance with all applicable Republic of Lebanon permitting requirements.
- (2) Biological processing shall be performed in a manner that minimises the formation of leachate by the facility.

- (3) Measures shall be taken to prevent water from running onto the facility from adjacent land and to prevent leachate and runoff from leaving the facility. Runoff from the facility must be effectively managed.
- (4) Biological processing facilities shall be designed, constructed, and maintained so as to minimise ponding of water or liquids. Any ponding that does occur shall be corrected through routine facility maintenance within 48 hours after the termination of the event causing the ponding.
- (5) Biological processing must be done on an all-weather surface of compacted soil, compacted granular aggregates, asphalt, concrete or similar relatively impermeable material that will permit accessibility during periods of inclement weather and prevent contamination of surface water and groundwater.
- (6) Solid waste which cannot be undergone biological processing (composted or anaerobically digested) or which is removed during processing shall be properly disposed of. Infectious waste shall not be accepted for treatment at any biological processing facility unless approved by the department in writing.
- (7) Solid waste materials shall be managed through the entire process in accordance with best management practices to minimize conditions such as odours, dust, noise, litter, and vectors which may create nuisance conditions or a public health hazard.
- (8) Storage of cured or finished compost shall be limited to 18 months. The 18-month period may be extended with prior written approval from the department.
- (9) If compost is offered for sale as a soil conditioner or fertiliser, the compost must be registered by the Ministry of Environment and Ministry of Agriculture in accordance with the relevant regulations. Sale shall be in compliance with all applicable laws and local rules and regulations.
- (10) Compost shall not be applied to land, sold, or given away unless the concentration of human-made inert materials such as glass, metal, and plastic is less than 3 percent by dry weight.
- (11) Compost shall not be applied to land, sold, or given away unless the size of any human-made inert materials is less than 10 mm.

3.1 Environmental risk assessment

- (1) Decisions regarding the siting, design, construction, operation, and end of life of a facility, which includes a biological process or a facility, which is a biological process by itself (composting) must be supported by an assessment of the environmental risk. The main decisions relating to the risk from such a facility in its specific location, the need to collect contaminated water and the standards of protection for soils and water.
- (2) Permitting agencies must be informed by the environmental risk assessment submitted by a Biological Treatment facility owner/operator during the permitting process. This environmental risk assessment should address both normal, unusual, and unplanned operating conditions. It should cover the entire lifecycle of the Biological Treatment facility from initial construction to the point where the Biological Treatment facility no longer poses a risk to the environment. The eventual submission of the Facility permit should form part of the environmental risk assessment and needs to be explicitly considered at the permitting stage.
- (3) The environmental risk assessment must inform permitting agencies for at least the following issues:
 - (a) Facility siting
 - (b) Water control and leachate management
 - (c) Protection of soil and water
 - (d) Nuisances and hazards
 - (e) Accidents and emergency response
 - (f) Environmental monitoring system

3.2 Planning and Siting Considerations

- (1) The location of the facility for a Biological Treatment Process and the type and amount of waste it is to receive are the primary determinants of the extent to which the facility will pose an environmental risk. Annex 2 presents planning and siting considerations for CBFs.
- (1) Prior to the construction, operation, expansion or modification of a CBF a permit shall be obtained from MoE. Any entity or person wishing to obtain a permit from the MoE for the construction and/or operation of a CBF shall submit the following documents:
 - A completed permit Environmental Impact Assessment study.
 - A complete site plan. This plan shall include the following:
 - a. Site conditions and projected use including all site structures, buildings, fences, gates, entrances and exits, parking areas, on-site roadways, and signs.
 - b. Property boundaries, access roads, surface water bodies, wetlands, and the location of flood plain boundaries; and,
 - c. Adjacent properties including the location of public and private water supplies on these properties.
 - d. A plan for training equipment operators and other personnel concerning the operation of the facility;
 - e. A contingency plan describing alternate solid waste handling procedure for inoperable periods or delays in transporting solid waste;
 - f. A closure plan which identifies the steps necessary to close the facility. The plan may be amended at any time during the active life of the facility with the MoE approval. The plan shall be amended whenever changes in operating plans or facility design affect the closure plan.
 - g. A description of the general operating plan for the proposed facility including the origin, composition, and expected weight or volume of all solid waste to be accepted at the facility per day; the maximum time waste will be stored; where all wastes will be disposed; the capacity of the facility; the operating hours of the facility; how non putrescible, recyclable waste will be handled; and, the expected life time of the facility;
 - h. A description of all machinery and equipment to be used, including the design capacity;
 - i. A description of the facility's drainage system and water supply system.

4 Design and operation requirements for biological processing facilities

A biological treatment facility may be of many different variations, but it should at least comprise the following:

1. Waste reception
2. Bioreactor (Composting / Anaerobic digestion).
3. Maturation (curing)/ Digestate management- solid/ liquid separation, composting)
4. Refining/ Biogas management
5. Packaging/ Biogas usage

Design and construction requirements for CBFs are presented in Annex 3.

5 Operational Requirements

- (1) All treatment activities must be conducted in a manner that minimise vectors, odour impacts, litter, hazards, nuisances, and noise impacts; and minimises human contact with, and/or inhalation, ingestion, and transportation of dust, particulates, and pathogenic organisms.
- (2) The facility is to be kept neat and tidy during waste treatment to prevent flies, rodents, odours, unsightliness, and accidents. The site must be swept, washed, and disinfected periodically, and litter picking should be undertaken on the premises as well as in the immediately adjacent areas daily.
- (3) Runoff from outdoor areas at waste treatment operations must be directed to the site storm-water handling system via a suitably sized settling basin/ silt trap incorporating a debris screen.
- (4) Contaminated runoff from indoor waste treatment operations, including runoff from cleaning/ washing activities, wash water from plant / equipment cleaning operations and leachate from waste must be directed to the sewer system, via a suitably-sized settling basin/ grease trap incorporating a debris screen.
- (5) The burning of waste, either in the open, inside buildings or in any form of incinerator is not allowed during or after waste treatment and is considered unacceptable because of aesthetics, odours, and the environmental as well as health impacts resulting from air pollution.
- (6) Wastes can be bulked-up for disposal or recovery elsewhere and can also be treated by sorting, separation, screening, baling, shredding, crushing and compaction.

Annex 4 presents the detailed operational requirements for CBFs.

6 Management requirements of CBFs

The management of a CBF shall be in compliance with the procedures as set forth in this regulation. The requirements for management of CBFs are presented in Annex 5.

7 Compost and Digestate Quality Standards and uses

7.1 Compost Standards

- (1) The compost shall meet the following requirements:
 - (a) *faecal coliforms* shall be less than 1000 Unit-forming colonies per gram of total solids calculated on a dry weight basis; and
 - (b) *salmonella sp.* shall be absent per 25 grams of total solids calculated on a dry weight basis, where the Most Probable Number method of analysis is used, or otherwise non-detectable by other generally accepted methods of analysis.
- (2) Notwithstanding subsection (1), where the feedstock does not include materials that may include high levels of human pathogens, including but not limited to food scraps and faecal matter, the processing shall meet the following requirements:
 - (a) in an in-vessel or aerated static pile system, the compost shall be maintained at operating conditions of 55°C or greater for 3 days,
 - (b) in a windrow system, the compost shall attain an internal temperature of 55°C or greater for at least 15 days, and during this stage, the windrow shall be turned at least 5 times.
- (3) The person or entity responsible for the operation and management of a CBF shall produce a compost that meets the standards established

Substance concentrations, expressed in mg/kg dry weight must comply with the limits set out in the following table:

Table 1. Quality Criteria of Compost from source separated organics (SSO) and Compost Like Output

Substance	Compost Like Organic (CLO) [Organics separated from mixed solid waste]	Compost [Source-separated organics]
Humidity (%)	≤20	≤80
Organic carbon (% d.m.)	≥20	≥7.5
Arsenic (mg/kg d.m.)	10	10
Cadmium (mg/kg d.m.)	≤3	≤2
Chromium	≤150	≤150
Chromium VI	≤10	≤2
Copper (mg/kg d.m.)	≤400	≤300
Lead (mg/kg d.m.)	150	≤120
Mercury (mg/kg d.m.)	≤2,5	≤1
Nickel (mg/kg d.m.)	≤100	≤50
Zinc (mg/kg d.m.)	≤1.200	≤800
<i>E. Coli</i> (CFU/g)	<1000 CFU/g	<1000 CFU/g
<i>Salmonella spp.</i> (Presence/ 25g)	Absence in 25g	Absence in 25g
Sum of impurities (glass, plastics, metals) >2 mm	≤3	≤0.5
Stones >5 mm (% d.m.)	≤5	≤2

CFU = Colony-forming unit

- (2) Organic matter and managed organic matter Retail-grade must have no sharp foreign matter, such as glass or metal shards, in a size and shape that can cause injury.

CLO should be used only a. to non-edible plants and cultivations b. after a specific risk assessment in areas with vulnerable water bodies c. as a cover material to landfills or to dumpsites for rehabilitation, and d. as a substratum below normal soil for keeping moisture high.

Compost can be used to any cultivation in accordance with its physical – chemical characteristics and nutrient value.

7.2 Digestate standards

The digestate shall meet the requirements of Table 2.

Table 2. Test parameters, upper limit values and declaration parameters for validation of digestate.

Parameter			Method of test								Upper limit and unit	
Pathogens (human and animal indicator species)												
E. coli			ISO 16649-2								1,000 CFU/g fresh matter	
Salmonella spp.											Absent in 25 g fresh matter	
Potentially toxic elements (PTE)												
Liquid (≤ 15% TS) digestates			For all PTEs*: ISO 15587-1:2002								Declare on a fresh weight basis	
Fibre (> 15% TS) digestates			For all PTEs* except Hg: EN 13650:2001 For Hg: ISO 16772								Declare on a fresh weight basis	
Total nitrogen (N)	kg/t	Less than 1	1 to 1.9	2 to 2.9	3 to 3.9	4 to 4.9	5 to 5.9	6 to 6.9	7 to 7.9	8 to 8.9	9 or more	
Cadmium (Cd)	mg/kg	0.12	0.24	0.36	0.48	0.60	0.72	0.84	0.96	1.08	1.2	
Chromium (Cr)	mg/kg	8	16	24	32	40	48	56	64	72	80	
Copper (Cu)	mg/kg	16	32	48	64	80	96	112	128	144	160	
Mercury (Hg)	mg/kg	0.08	0.16	0.24	0.32	0.40	0.48	0.56	0.64	0.72	0.80	
Nickel (Ni)	mg/kg	4	8	12	16	20	24	28	32	36	40	
Lead (Pb)	mg/kg	16	32	48	64	80	96	112	128	144	160	
Zinc (Zn)	mg/kg	32	64	96	128	160	192	224	256	288	320	
**“All PTEs” means Cd, Cr, Cu, Ni, Pb, Hg and Zn.												
Physical contaminants												
Stones > 5 mm											Declare on a fresh weight basis	

Total glass, metal, plastic and any "other" non-stone, man-made fragments > 2 mm									Declare on a fresh weight basis		
Total nitrogen (N)	kg/t	Less than 1	1 to 1.9	2 to 2.9	3 to 3.9	4 to 4.9	5 to 5.9	6 to 6.9	7 to 7.9	8 to 8.9	9 or more
Total stones	kg/t	3.2	6.4	9.6	12.8	16	19.2	22.4	25.6	28.8	32
Total physical contaminants (excluding stones)	kg/t	0.04	0.07	0.11	0.14	0.18	0.22	0.25	0.29	0.32	0.36

No "sharps"

NOTE 1 Total nitrogen is the limiting factor for PTE and physical contaminant contents. For example, a total nitrogen content of between 2 and 2.9kg/t means that Cd could not exceed 0.36mg/kg, and stones could not exceed 9.6kg/t. Methods for testing total nitrogen are listed below in this table.

NOTE 2 Separated liquor is exempt from physical contaminants tests only if the separation technology used by the producer results in all particles being < 2 mm in the separated liquor fraction.

8 Biological Treatment Facility closure, rehabilitation and end-use

- (1) A facility to be discontinued, for whatever reasons, must be rehabilitated to the satisfaction of the competent authority.
- (2) Before the closure of a facility (composting, anaerobic digestion),
 - i. all products (i.e. compost) must be applied or distributed in accordance with this Standards and Conditions, and
 - ii. all unprocessed organic matter must be removed from the facility and dealt with in accordance with the relevant legislation.
- (3) A rehabilitation plan for the site, including the indication of end use of the area must be developed and submitted to the Competent Authority for approval not more than one (1) year prior to the intended closure of the facility.
- (4) The site must be rehabilitated according to the rehabilitation plan.
- (5) The owner of the facility, including the subsequent owner of the facility will remain responsible for any adverse impacts on the environment, even after operations have ceased.

ANNEX 1: The role of CBFs in solid waste management

Biological treatment technologies are designed and engineered to control and enhance natural biological processes, and as such can only act on biodegradable organic materials.

Biological treatment processes like composting or anaerobic digestion can treat either source-segregated materials or those mechanically separated from a mixed waste stream into a biodegradable, organic rich fraction.

Source segregated collections will provide a cleaner organic stream, but on their own are unlikely to capture sufficient organic material to achieve the required level of Biodegradable Municipal Waste diversion from landfill. Therefore, additional diversion of Biodegradable Municipal Waste will be required through processes such as Mechanical Biological Treatment in the long term.

Composting is one element of an integrated solid waste management strategy that can be applied to the organic component of mixed municipal solid waste (MSW) or to separately collected leaves, yard wastes, and food wastes.

Anaerobic Digestion (AD) is either a 'wet' process used for materials with moisture contents more than 85% or a 'dry' process used for materials with moisture contents less than 80%. Anaerobic processes require less energy input than aerobic composting and create much lower amounts of biologically produced heat. Additional heat may be required to maintain optimal temperatures, but the biogas produced contains more energy than is required i.e. the process is a net producer of energy.

Biodegradable material is converted into a combustible gas known as 'biogas' primarily consisting of a mixture of methane and carbon dioxide. Biogas can be burned for heat and/or electricity production or cleaned for use as a fuel or injection into the national grid. The material remaining consists of a wet solid or liquid suspension of non-biodegradable materials; recalcitrant organics; microbes (biomass) and microbial remains; and decomposition by-products. This partially stabilized wet mixture is known as 'digestate'.

Either composting or anaerobic digestion technologies can be integrated in facilities with more complex treatment schemes and they can involve part or the whole organic fraction that is driven for treatment. The most usual combination is composting, or anaerobic digestion combined with mechanical recycling techniques and/ or the production of secondary fuels.

ANNEX 2: Planning and siting considerations for CBFs

Biological Treatment facility site selection is a complex multi-criteria and time-consuming process that usually raises arguments and conflicts between different stakeholders with different interests and opinions. Therefore, the Biological Treatment facility siting procedure needs the use of a widely and transparently acceptable decision tool that utilizes clear and comprehensive criteria and represents a multidisciplinary approach that takes into consideration the interests of all stakeholders. The Biological Treatment facility siting procedure must be based on the following factors for the candidate locations:

- (a) Geographical and geological considerations: locations that are sensitive in possible unintended leakage of pollutants that can cause permanent effects in the surrounding area must be avoided. Consequently, candidate areas that must be avoided for the development of a Biological Treatment facility are the ones with problems related to landslides, intense seismic activity, flooding, geotechnical instability, protected species habitats, etc.
- (b) Physical planning considerations like distance to residential areas, natural reserves, historical sites, facilities like airports, ports, etc., lakes, rivers, wetlands, and other features that are considered based on the location characteristics
- (c) Hydrogeological considerations, like distance to and use of the underground water table, local surface water flows and their destination, etc.
- (d) Landscaping: the operation of a Biological Treatment facility can cause reversible changes to site topography. Locations with minimal effect on the greater area's morphology and attractive landscaping and future use of the area of the Biological Treatment facility that adequate to the characteristics of the surrounding area increase public acceptance of the candidate location
- (e) Selection procedures: the site selection procedure must be clear, straightforward, open to all stakeholders based on widely used and accepted decision-making supporting tools like GIS, Environmental Impact Assessment, Life Cycle Analysis, clear and comprehensive criteria, and weighting ranking, etc.
- (f) Public involvement from the beginning of the site selection process is vital to gain public acceptance of the selected location. Issues like real estate values, aesthetics, heavy vehicles traffic, land use, concerns about the environment and public health, etc. should be raised and discussed during the public consultation process

The site selection process should normally include the following processes:

- (a) Initial desktop study: the candidate locations for a Biological Treatment facility must be examined based on characteristics like geology, hydrogeology, surface water flows and hydrology, environmentally sensitive areas, vegetation types, land stability, topography, land uses, etc.
- (b) Site investigations, that will provide detailed information regarding the characteristics of candidate locations. Site investigations can include mapping of site geology, geotechnical investigations, identification of nearby groundwater wells and uses, sampling of water quality, flora and fauna, population and areas in the vicinity, cultural heritage sites, etc.
- (c) Environmental Risk Assessment (see paragraph 3.1)
- (d) Economic assessment that will examine every candidate site with economic criteria like land acquisition costs, construction, operation and monitoring costs, waste transport costs, etc.
- (e) Community consultation that will focus on community engagement and involvement in the site selection process. The community must be provided with all the necessary

information and the opportunity to comment. The level of detail to be provided will vary depending on the nature and scale of the Biological Treatment facility proposed but should include as a minimum, an assessment of the impact of the proposal on the surrounding community e.g. employment opportunities, altered traffic volumes, noise, dust and odor, access and distance to travel, etc. Additionally, consultation with the surrounding community may provide useful information on the community waste management needs and requirements of the facility.

The biological processing facility shall be 500 metres from any existing inhabited residence, not including the residence of the person owning/operating the facility, at the time the permit application was received by the Competent Authority.

Biological treatment must be done outside of wetlands, at least 150 metres from public wells and private wells, 50 metres from property lines, and 150 metres from flowing or intermittent streams, lakes, or ponds. Sediment ponds engineered wetlands or other constructed waterways for the purpose of pollution control are excluded from this requirement.

ANNEX 3: Design and construction requirements for CBFs

Composting requirements

- (1) The person responsible shall construct a composting facility that is designed in accordance with the following requirements:
 - (a) there shall be a design plan which defines and describes
 - (i) the operating capacity of the compost facility to receive feedstock, and to produce and store the compost and non-compostable materials,
 - (ii) the structures and equipment required for the operation of the compost facility, and
 - (iii) the structures, facilities, and equipment for control of emissions of offensive odours and contaminated liquids,
 - (b) there shall be a composting pad
 - (i) constructed of at least 0.5 metres of clayey material having a permeability less than 5×10^{-8} metres per second, or an alternative material that provides equivalent protection, and
 - (ii) constructed with a minimum slope of 2 percent in order that the pad does not collect water or leachate,
 - (c) there shall be a run-on control system that prevents the flow of surface water onto the storage, processing and curing areas; and
 - (d) there shall be a run-off control and management system that provides protection of surface water quality.
- (2) In addition to the requirements set out in paragraph (1), a compost facility that is enclosed within a structure or vessels shall include an air pollution control system to control emissions of
 - (a) offensive odours,
 - (b) airborne microbials, and
 - (c) airborne particulates so that the opacity from all air emission sources does not exceed an opacity of 40 percent over a period of 6 consecutive minutes per hour.
- (3) The Competent Authority may, by notice in writing, require the person responsible to construct and maintain a groundwater monitoring system where
 - (a) the compost facility is not enclosed within a structure or vessel.
 - (b) the volume of feedstock exceeds 5,000 tonnes per year.
 - (c) the compost facility is located on a natural geological material with a hydraulic conductivity that is greater than 5×10^{-7} metres per second and within 5 metres vertically of an unconfined aquifer, or
 - (d) the base of the composting pad is less than 1 metre above the seasonally high-water table.

- (4) The person responsible shall comply with any notice given under paragraph (3) in accordance with its terms.

Anaerobic Digestion requirements

- (1) The person responsible shall construct an anaerobic digestion facility that is designed in accordance with the following requirements:
- (2) All process buildings (including those handling raw materials, pasteurisation, maturation, etc) should be airtight, and be held under negative pressure with a minimum of three air changes per hour, vented to abatement. Assessments should be carried out annually demonstrating the integrity of the building and effectiveness of negative pressure e.g. smoke testing.
- (2) All process buildings should have impermeable, kerbed flooring laid to a fall and directed to a foul drainage system so as to prevent ponding. The internal drainage system should be designed to be readily accessible for cleaning.
- (3) The process building dealing with waste acceptance should be fitted with an airlock system.
- (4) Where airlock facilities are not feasible air curtain arrangements would be considered for the control of fugitive odour emissions during access and egress. Such systems should be installed on all entry points to buildings requiring negative pressure
- (5) All vehicle entry points to process buildings should be via fast acting roller shutter doors which open and close on a pressure switch. All doors associated with process buildings should be connected to an alarm system which alerts operators in the event of doors being left open.
- (6) Hoppers and storage bins used to store incoming wastes should be fitted with lids. These lids should be interlocked to the door entry system to prevent access to the relevant building when these hoppers and storage bins are open.
- (7) Wastes should be stored no longer than 24hrs from initial acceptance onsite prior to introduction into the anaerobic digestion reactor(s) unless held in process tanks connected to abatement.
- (8) All odorous areas should be vented to appropriate abatement. Odour abatement systems should be designed to a minimum of 95% destruction efficiency or sufficient to meet 1.50UE/m³ (or 1.00UE/m³ for a hypersensitive population) standard at the site boundary.
- (9) Validation of the abatement plant performance should be carried out annually via extractive odour monitoring.
- (10) In addition, performance indicators (such as biofilter pressure differential, liquor pH etc, scrubber liquor pH, redox and flow) should be established relevant to the abatement technology to monitor performance against design criteria.
- (11) All liquid and slurred waste storage, buffer and digestate tanks should be connected to abatement to control breathing losses.
- (12) A site-specific bio-aerosol risk assessment should be undertaken and accompany any application for those plants with sensitive receptors (workplace and dwellings) within 250m from the site boundary. This should include background and operational monitoring where appropriate.
- (13) Containment. All tanks containing liquids whose spillage could be harmful to the environment to be bunded. This shall include:
 - (a) liquid and slurred waste storage.
 - (b) buffer tanks.
 - (c) reactors.
 - (d) chemical and oil storage (including micronutrients),
 - (e) digestate storage.
- (14) For new sites it is insufficient to be reliant on double skinned tanks as the sole containment

(15) Bunds should:

- (i) be impermeable and resistant to the stored materials,
- (ii) have no outlet and drain to a blind collection point,
- (iii) have pipe work routed within bunded areas with no penetration of contained surfaces,
- (iv) be designed to catch leaks from tanks and fittings,
- (v) have a capacity greater than 110% of the largest tank or 25% of the total tankage, whichever is the larger,
- (vi) be subject to visual inspection and any contents pumped out or otherwise removed under manual control after checking for contamination,
- (vii) where not frequently inspected, be fitted with a high-level probe and an alarm, as appropriate,
- (viii) where possible, have tanker connection points within the bund, otherwise provide adequate containment.
- (ix) and be subject to programmed engineering inspection.

For biogas combustion

- (1) Desulphurisation plant should be provided to reduce Hydrogen Sulphide (H₂S) concentration within biogas prior to combustion by a minimum of 90%. Desulphurisation is required to reduce the potential for incomplete combustion of H₂S rich gas and subsequent odour. In addition, biogas engine suppliers will set a maximum inlet H₂S concentration owing to corrosion concerns. For most anaerobic digestion facilities, it is unlikely that this concentration would be achieved without abatement.
- (2) Desulphurisation plant should be fitted with appropriate continuous monitoring for performance (e.g. liquor flow, pH) which should be fitted with alarms in the event of deviation from set parameters.
- (3) Flares should meet a minimum standard which specifies a combustion temperature in the range of 1000 to 1100 °C and a retention time of 0.3s.
- (4) Flare systems should continuously monitor the combustion temperature of flares with an alarm system in the event of a drop in temperature below 1000 °C.
- (5) Flares and flame arrestors should be designed to cope with wet gas.
- (6) As part of the design process consideration should be given to the impact of power failure on the ability to safely combust biogas and prevent a pressure relief event.
- (7) For biogas engines, it would be expected that the levels of emission and abatement would be justified on a site-specific basis. Where there is a structured argument put forward for achieving a different emission standard including all aspects including cost, efficiency, availability of technology, site specific impact at receptors etc. The competent authority would decide on best available techniques. The limits of Table 3 following should be regarded as indicative emission limits of biogas within gas engines.

Table 3. Emission limits for biogas engines

Pollutant	ELV (at normal temp, pressure and 5% oxygen)	Extractive monitoring requirements
NO _x	500 mg/m ³	Minimum annually with option to reduce dependant on risk and consistent compliance.
CO	1000 mg/m ³	Minimum annually with option to reduce dependant on risk and consistent compliance.

SO ₂	300 mg/m ³	Minimum annually with option to reduce dependant on risk and consistent compliance.
Total VOC (including methane)	1000 mg/m ³	Minimum annually with option to reduce dependant on risk and consistent compliance

- (8) For biogas boiler combustion, it would be expected that the levels of emission and abatement would be justified on a site-specific basis. Where there is a structured argument put forward for achieving a different emission standard including all aspects including cost, efficiency, availability of technology, site specific impact at receptors etc. The competent authority would decide on best available techniques. The limits of Table 4 should be regarded.

Table 4. Emission limits for biogas boilers

Pollutant	ELV (at Normal Temp, Pressure and 3% oxygen)	Extractive Monitoring Requirements
NO _x	100 mg/m ³	Minimum annually with option to reduce dependant on risk and consistent compliance.
CO	100 mg/m ³	Minimum annually with option to reduce dependant on risk and consistent compliance.
SO ₂	35 mg/m ³	Minimum annually with option to reduce dependant on risk and consistent compliance.

- (9) All extractive monitoring should be carried out by appropriately qualified sampling staff with analysis undertaken by appropriately certified laboratories.
- (10) As part of any facility, modelling should be conducted of any pressure relief valve systems at a credible H₂S concentration to assess the odour and human health impact of any such event.
- (11) As part of the permitting process, an assessment of the feasibility of reducing pressure from these vents and abating the emission. In making any assessment as to the feasibility of abating pressure vent emissions the applicant must consider the risks associated with explosion and flammability. In agreeing to abatement operations staff should seek advice from the Health and Safety Executive as part of the statutory consultation process.
- (12) The Anaerobic Digestion plant should have continuous biogas pressure monitoring with an alarm mechanism. Any application should specify the maximum pressure above which there should be no feed to the AD reactor which should be interlocked.

Supporting infrastructure

Fencing – entrance gate

All facilities should have a barrier around the perimeter of the site to prevent the unauthorised entry of people and input loads. For this reason, the perimeter of the areas of the facility must be protected via a fence that will ensure the protection of the site. The fence must be made of galvanized iron ducts of 5 cm diameter, 2.50 m height, which will be encased in a concrete basis below the ground. The ducts will be vertical and will reach a height of 2.00 m above the ground. In the last 50 cm, the ducts will have a gradient of 30° to the external side of the fence. The edges of the ducts will be connected with a prickly wire net.

The prickly wire net will be 2 mm thick and will be installed in 2 rows. In both the vertical and the sliding parts of each duct, holes will be made for the reinforcement wire and the prickly wire net to be developed. The reinforcement wire will be 4 mm thick and will be installed in 3 rows. A rhomboid wire net with loops (5 X 5 cm) will be used to restrict the trespassing of rodents.

The distance between the ducts will be 3.00 m., and every 6.00 m iron struts will be placed of the same diameter as the ducts. The struts will be encased in a concrete basis, of dimension 0.50 X 0.50 X 0.60 m.

The entrance gate consists of two doors with 4.00 m length each and 2.50 m height. The entrance doors will open either automatically or manually. The doors will be coated with a wire net and be secured with a lock.

Right after the entrance gate, there will be posted an information sign that will include at least the following information:

- (a) Facility name
- (b) Name and contact details of Owner/Authority
- (c) Facility's operator name and contact details
- (d) Working hours of the facility
- (e) Facility supervisor

Weighbridge building

The weighbridge building is foreseen to serve facility's weighbridge. For this reason, it is located next to the weighbridge. The building must have at least one main workroom with a sanitary unit and an entry hall with a kitchenette. The building shall be equipped with a desk and the necessary electronic equipment for weighing and data recording of the incoming/departing vehicles.

Weighbridge

The Facility's weighbridge is located close to the entrance of the facility. It ensures the accurate and systematic recording of incoming waste. All the incoming vehicles carrying waste loads are weighted before discharging their load in the reception area of the Facility. The weighbridge must be operating fully automatically. The weight of any vehicle must be recorded in dedicated software that must be installed in the computing system in the weighbridge building. The Weighbridge should provide data with increments of at least 5Kg. The computing system shall have the capacity to print receipts per vehicle and to store data of various incoming and outgoing vehicles and generate daily and periodic reports.

Wheel washing system

Before leaving the facility and entering the public roads, the waste vehicles will undergo wheel cleaning. The purpose of the wheel washing system is to wash the tyres of waste vehicles from mud and waste residues from the facility.

The wastewater from the washing basin must be collected and transmitted to the leachate treatment plant.

Internal roads

A road network inside the facility will ensure access to all facility infrastructure. The surface of the internal roads will be asphalt and it will be designed and constructed for heavy vehicles according to local regulations. Based on the expected traffic loads, the road network can have 4m or 8m width (for one or two traffic lanes respectively) and the maximum longitudinal slope must be 8%.

Incoming loads sampling area

A special area for the sampling of loads of incoming waste vehicles must be included in the facility. This area will be accessible in every weather condition, fenced, and paved with asphalt. It must be constructed in an area close to and after the weighbridge building.

Administration building

This building serves the facility's administration, the personnel, and visitors. The administration building must have at least the following rooms:

- (a) Offices
- (b) First aid provision office
- (c) Resting room for the people working on site
- (d) Meeting room
- (e) WC
- (f) Washroom/Showers/WC/Lockers (separate for men and women)
- (g) Kitchen

The Administration building can be also equipped with a control room for different operations i.e. SCADA system for the operation of the wastewater and leachate treatment plant, Laboratory for environmental monitoring sampling and tests

Maintenance building/workshop

This building will be used to cover maintenance, repair, and lubricating purposes of the machinery operating in the facility. The maintenance building must be equipped with all the necessary equipment for the maintenance of the machinery and must have at least the following room:

- (a) Main maintenance area/workshop
- (b) Storage room for materials and tools
- (c) Office for the maintenance personnel
- (d) WC
- (e) Kitchenette

Fuel tank

A fuel tank with a minimum volume of 5m³ must be installed in the facility. This tank will serve only the machinery operating on site. The tank must be equipped with a fuel pump for the supply of the machinery. The design of the tank must follow the local regulations for this type of tanks

Parking space

The vehicles of the facility's visitors and personnel must be parked in a dedicated area with an adequate number of parking spaces. The parking area in a facility must be developed close to the administration building

Water tank-Firefighting system

A firefighting system must be installed in the facility that will cover its whole area. The firefighting system must follow the local regulations and the requirements of the local firefighting department. One water tank must be installed in the site that will supply with water the firefighting system and firefighting vehicles that will visit the site in case of a fire event.

The water tank can be supplied by the surface water management system and must be full and accessible by heavy vehicles all the time.

Fire protection zone

Inside and parallel to the fence, a fire protection zone of 10.00 m width must be foreseen for every facility. This area will be kept free of any vegetation and it will prevent the spread of any fire event from the facility, to the surrounding area.

Environmental monitoring

- (1) Monitoring systems for surface and ground water pollution, dust pollution or odour emissions must be indicated in the operation and maintenance plan. This must include the positions of surface water sampling points as well as monitoring boreholes.
 - (a) Air monitoring (CH₄, CO₂, CO, NH₃, H₂S)
 - (b) Surface and groundwater monitoring
 - (c) Dust
 - (d) Odour
- (2) The person responsible shall establish a programme to monitor and record the temperature and humidity of the composting process.
- (3) Where a groundwater monitoring system is required by the Competent Authority, the person responsible shall obtain and analyse representative samples from the groundwater monitoring system on an annual basis, or at a frequency approved in writing by the Competent Authority.
- (4) The Competent Authority may, by notice in writing to the person responsible,
 - (a) require that groundwater samples be analysed for parameters other than those set out in paragraph (3),
 - (b) change the frequency of groundwater monitoring and analysis required under paragraph (2), or
 - (c) require the person responsible to install additional groundwater monitoring wells, where the Competent Authority is of the opinion that it is necessary due to
 - (a) the character of feedstock received at the compost facility,
 - (b) changes in groundwater quality at the compost facility, or
 - (c) other evidence that suggests an impact on groundwater quality.
- (5) The person(s) responsible shall comply with any notice given under section (4) in accordance with its terms.

- (6) Where groundwater at the compost facility fails to meet the performance standards set out in paragraph (3), the person responsible shall notify the Competent Authority and shall implement a groundwater remediation plan.
- (7) Where groundwater monitoring is required the person responsible shall
 - (a) protect all groundwater monitoring wells from damage,
 - (b) keep all groundwater monitoring wells locked, except when being sampled, and clean, repair or replace groundwater monitoring wells which have been damaged or are no longer able to produce representative groundwater samples prior to the next scheduled sampling date.

ANNEX 4: Operational requirements for CBFs

Waste Reception

The road construction that will lead to the reception unit should have inclinations of less than 5% and curvature rays that ensure the easy and safe passage of vehicles.

The reception unit will include a manoeuvring and parking lot and will ensure easy access, fewer necessary manoeuvres, and easy removal of vehicles. There must be the necessary marking.

The design must provide for automatic opening - closing of unloading doors, sampling, or sampling location for large installations, as well as space for the placement of bulky and potentially dangerous containers and their removal from a special vehicle. The number of unloading doors should ensure a smooth flow of vehicles.

The capacity of the reception ditches must ensure the temporary storage of waste, usually for two (2) days. The reception areas should operate under pressure. The construction materials of the trenches will be either made of reinforced concrete or for small installations made of common steel of sufficient thickness and durable welds, so that there are no alloys from any collisions and the creation of sparks from the impact of the arms is avoided.

The supply of the above provisions will be done with crane bridges that will end in multi-legged grabbing and with hydraulic arms that will end up in multi-legged grabbing for small facilities. The crane bridges will be of the type of carriers with a moving trunk on them with a sufficient lifting capacity and a capable opening of a bridge. The bridge and winch should have variable speed and the engines will be with variable revs and brakes. The engines will have high protection against moisture and dust.

The grabbers must be multi-legged, semi-closed, capable of maximum capacity and maximum width with open legs. They must have opening doors and sufficient power.

The fronts of the arms and the inner lining are made of high-strength alloy with friction. The exterior cladding is made of high hardness steel.

Maximum filling of the joint and its adaptation to materials of uneven shape should be ensured. A small opening-closing time should be provided so that more cycles are performed per minute.

Power strips are usually of the variable speed metal type. The surface of the film consists of modular metal sheets of sufficient thickness. The plates have extreme vertical protections, sufficient height, and internal vertical plates that facilitate the promotion and dosing of materials. The tape should have a sufficient number of chains (so as not to distort the central part of the film) and be the chains capable of resistance. The plates will be made of steel as well as the material of the frame and the guides of the chains. The chains will be made of high-strength steel and the motors must be protected from moisture and dust.

Composting Considerations

(2) The person responsible shall develop, maintain, and implement an operations plan that is consistent with the compost facility design and includes as a minimum:

- (a) a description of the source and types of feedstock to be composted.
- (b) operation procedures for feedstock preparation, aeration, moisture control, and temperature control.

- (c) feedstock acceptance procedures and policies.
 - (d) an emergency response plan to deal with fires, releases, or medical emergencies.
 - (e) a plan for the management, detection, and mitigation of offensive odours; and
 - (f) a plan for minimising dust.
- (3) Non-compostable waste and unacceptable product must be disposed at least weekly unless the material generated in a week is less than 1 cubic meter. Biweekly disposal is allowed if the weekly material generated is less than 1 cubic meter.
- (4) For facilities accepting the mechanically separated biodegradable fraction of mixed solid waste:
- i. a recyclables separation program programme must be in place in the generating community(ies) and at the facility,
 - ii. recyclables must be removed from the waste stream before active composting,
 - iii. a fixed radiation detection unit must be installed and operated at a location appropriate for the monitoring of all incoming waste. In addition:
 - (a) the investigation alarm setpoint of the radiation detector must be set at least two times but no greater than five times background radiation levels,
 - (b) the concentration of radium-226 in any waste composted at the facility cannot exceed 25 pCi/g,
 - (c) background radiation readings at the facility must be measured and recorded at least daily,
 - (d) field checks of the radiation detector utilising a known radiation source must be performed and recorded at least weekly,
 - (e) the radiation detector must be calibrated at least annually or more often as recommended by the manufacturer, and documentation describing the calibration must be maintained at the facility; and
 - (f) each instance in which the radiation detector is triggered by a waste load must be documented and reported to the department within 24 hours. Recorded information must include the date the waste was received, transporter name, origin of the waste, truck number or other identifying marking, detector reading, disposition of the waste, and date of disposition,
 - i. all waste storage and composting areas must be enclosed.
- (5) Facilities that accept source separated organics, municipal solid waste, biosolids, septage, and other wastes with potential pathogen concern, as determined by the competent authority, are required to comply with the pathogen and vector attraction reduction criteria.
- (a) A compost product that does not meet the criteria in paragraph 7.1 of this is considered a waste and must be disposed or reprocessed (if feasible).
 - (b) The compost can be distributed for use for food crops, feed crops, and fibre crops.
 - (c) The addition of sawdust, soil, or other materials to the process or product for dilution purposes is not allowed.
 - (d) The product must not contain more than two percent total gross contaminants by weight (dry weight basis).
 - (e) The product must be able to pass through a one-inch screen, except for wood particles derived from the use of wood chips as a bulking agent or amendment.
 - (f) The compost product must be mature and must be used in a legitimate manner as a soil amendment, for erosion control, etc. The process must have a minimum

detention time (including active composting and curing) of 50 days, unless an alternate means for achieving sufficient maturity is approved by the department.

- (4) The person(s) responsible shall prevent the release of leachate or run-off from the composting pad to the surrounding watercourses unless the leachate or run-off meets the parameters least of surface water background quality
 - (5) The person responsible shall establish and maintain litter controls to minimise the escape of wastes from the compost facility, and shall retrieve waste that is washed or blown onto adjacent properties or accumulates on the compost facility and shall properly dispose of such waste.
 - (6) Non-compostable materials that result from preparation of the feedstock or from the screening of compost shall be removed from the compost facility and properly disposed of when the amount of non-compostable materials exceeds the storage capacity specified in the design plan.
 - (7) The person responsible shall establish controls to prevent the propagation, harbourage or attraction of disease vectors and noxious weeds at the compost facility.
 - (8) The person responsible shall post signs at the compost facility entrance providing the following information:
 - (a) the name of the person(s) responsible for the compost facility,
 - (b) any waste restrictions, and
 - (c) telephone numbers for
 - (i) the person responsible,
 - (ii) the local fire department,
 - (iii) the local police department.
 - (9) The person responsible shall provide artificial or natural barriers at the compost facility to control public access and prevent unauthorised vehicular traffic and illegal dumping of wastes.
 - (10) Compost ready for the designated market cannot be stored at the facility for more than 24 months.
 - (11) Except for products derived solely from yard trimmings, an information label must be affixed to the product packaging or, for bulk, an information sheet, sign, or brochure must be used containing:
 - (a) the name and address of the generator of the product,
 - (b) the type of waste from which the product was derived; and
- a. recommended safe uses, application rates and storage practices. Compost ready for the designated market cannot be stored at the facility for more than 24 months.
 - b. Except for products derived solely from yard trimmings, an information label must be affixed to the product packaging or, for bulk, an information sheet, sign, or brochure must be used containing:
 - i. the name and address of the generator of the product,
 - ii. the type of waste from which the product was derived; and

- iii. recommended safe uses, application rates and storage practices.

Anaerobic Digestion Considerations

The person or entity responsible shall develop, maintain, and implement an operations plan that is consistent with the anaerobic facility facility design and includes as a minimum:

- (a) a description of the source and types of feedstock to be composted.
- (b) operation procedures for feedstock preparation, and d temperature control.
- (c) feedstock acceptance procedures and policies.
- (d) an emergency response plan to deal with fires, releases, or medical emergencies.
- (e) a plan for the management, detection, and mitigation of offensive odours; and
- (f) a plan for minimising dust.

A digestate product that does not meet the criteria in paragraph 7.1 is considered a waste and must be disposed or reprocessed (if feasible).

The addition of sawdust, soil, or other materials to the process or product for dilution purposes is not allowed.

The product must not contain more than two percent total gross contaminants by weight (dry weight basis).

Environmental control requirements

Odour Control

- (1) The operator shall prevent and eliminate conditions that create odours.
- (2) The facility shall be operated to control any odours that are created.
- (3) The facility shall not discharge air pollutants which cause objectionable odours off-site (beyond the facility's property line). Odour evaluations shall be conducted by the competent authority's personnel to determine if an odour is objectionable by considering its nature, concentration, location, duration, and source.
- (4) The facility must establish an odour complaint hot line. The facility must have the ability to receive calls on a twenty-four (24) hour per day basis. (An answering machine may be used for this purpose.) Complaints received during normal operating hours must be investigated and responded to immediately. Complaints received during times when the facility is closed must be investigated and responded to within twelve (12) hours from when the complaint is received. All complaints received by the facility and actions taken in response to the complaints must be reported to the Department within twenty-four (24) hours from when the complaint was received. The facility operating plan must indicate how the odour complaint hot line will be established and what actions will be taken when odour complaints are received. Odour complaint forms must be created and maintained by the facility.

Vector Control

- (1) The facility shall not operate unless any on-site vector population is minimised by appropriate techniques to protect public health as follows:

- (2) Conditions shall be maintained that are sanitary and therefore unfavourable for the harbouring, feeding, and breeding of vectors.
- (3) Control of insects and rodents, when needed, shall be affected by means of a program directed by a professional exterminator utilizing insecticides and/or rodenticides or other means approved by the Department. Use of such pesticides shall be performed with care, such that composting waste and finished compost is not contaminated by these agents.
- (4) The operator shall inspect the facility daily to detect any vectors and promptly take corrective action.

Litter Control

- (1) The operator shall not allow solid waste, composting waste, finished compost, or other materials or wastes to be blown or otherwise undesirably deposited off-site.
- (2) The operator shall inspect the facility's property daily to detect litter and promptly take any necessary and corrective actions.

Dust Control

- (1) The operator shall prevent and eliminate conditions that create dust.
- (2) The operator shall always use suitable methods and take appropriate actions to control dust at the facility, also including access roads to and from the facility and other areas related to facility operation.
- (3) The operator shall inspect the facility daily to detect any dust accumulation and promptly take corrective action.

Hot Spot Monitoring and Control

The operators shall inspect the facility daily to detect hot spots in a storage or processing area and promptly take corrective action, when necessary.

Open Burning Prohibition

Open burning of any type shall be prohibited at a facility.

Air quality

- (1) The operator shall prevent fugitive air contaminants to a level acceptable to the competent authority, and otherwise prevent and control air pollution.
- (2) With respect to air standards, the facility shall not violate the country's implementation plans or laws approved or promulgated.

Surface Water Pollution

- (3) The facility shall not cause pollution of the surface waters state in violation of implementation plans and laws approved or promulgated, nor shall the facility cause a discharge of dredged material or fill in violation of implementation plans or laws approved or promulgated.

Groundwater Pollution

The facility shall not cause pollution of any groundwater. In addition, the facility shall comply with the requirements of the Law and the regulations adopted pursuant to the Law, as are or as amended.

Surface Water/ Stormwater Control and Erosion Control

- (1) Surface water and stormwater shall be diverted away from the operating area, to include all areas where waste is received, stored, processed, and composted, and cured, as well as the finished compost storage area and any waste residual storage area.

- (2) Surface water, stormwater, and any other water that comes in contact with wastes stored for composting, waste being processed or composted or cured, compost waste residue, or processed material which does not meet the specifications for finished compost shall be considered leachate and shall be diverted to the collection area for proper disposal or shall be re-used in waste processing or composting.
- (3) The facility owner and/or operator shall employ procedures to prevent and minimise erosion and sedimentation during construction, operation, and after closure.

Leachate and wastewater requirements and management

- (1) All leachate must be managed by an approved method and treated, if necessary, to meet any applicable requirements.
- (2) The facility shall contain, collect, recycle, or properly dispose any and all liquid waste received or generated at the facility.
- (3) Any wastewater and liquid waste that is not recycled, but instead disposed, shall be disposed in a manner that does not pollute any source of private or public water supply, any waters of the state, or groundwater.
- (4) The receiving, storage, processing and curing areas of a composting facility must comply with all the following:
 - (i) be located on asphalt, concrete or another similar impermeable surface that is capable of withstanding wear and tear from normal operations and that will prevent the release of leachate into the environment.
 - (ii) have a roof or cover, or a prepared surface, designed to prevent
 - (iii) the surface collection of water around the base of organic matter and compost, and
 - (iv) run-off water from entering the receiving, storage, processing and curing areas,
 - (v) have a leachate collection system designed, constructed, maintained, and operated to reuse leachate, or to remove leachate, from the receiving, storage, processing and curing areas.
- (5) Leachate that is not collected and reused in the composting process must not be discharged into the environment unless authorised.
- (6) Despite points 4(i) and 4(ii) above, an impermeable surface, roof, cover, prepared surface or leachate collection system is not necessary if a qualified professional can demonstrate through an environmental impact assessment that the environment will be protected and appropriate water quality criteria satisfied through the use of alternative leachate management processes.
- (7) Additional information may be requested with respect to the environmental impact assessment that it is considered necessary for the protection of human health and the environment, and may specify particular concerns, questions, standards or monitoring that the assessment must address.

ANNEX 5: Management requirements for CBFs

General Regulations

- (1) The maximum speed for all vehicles inside the facility area must be 30 km/hr. Traffic regulations for public roads will be valid also in the facility if no other specific guidance and/or traffic sign is in place.
- (2) The staff of the facility shall secure the safe operation of the facility and carry out the necessary maintenance and urgent repairs of the machinery and equipment available.
- (3) The staff of the facility is not allowed to carry out construction works on the site.
- (4) External users (suppliers of waste) shall comply with the instructions and orders of the staff of the facility.
- (5) The suppliers of waste shall accomplish their task and leave the site without any delay. Exemptions can be made only by the order of the staff of the facility.
- (6) The fees for treatment of the waste received are calculated based on the weight, determined at the weighbridge.
- (7) Scavenging and open fire is forbidden at the facility.
- (8) Smoking, eating, and drinking are not allowed outside the designated premises.

Recording and reporting of data

- (1) The operator is responsible for the registration and reporting of data from the facility and must keep a "Facility for biological processing of organic waste Report Book" regarding the quantity and types of waste, which are received and accepted for treatment at the facility, or which are rejected.
- (2) The Facility operator shall establish and maintain an operating record for the Facility and shall provide the operating record and its contents to the supervising authority, or any other Delegated Authority, upon request. The operating record shall contain the following information:
 - (a) a copy of the site permit,
 - (b) survey records of the facility including treatment performance and other relevant information,
 - (c) the last version of the facility operation plan.
 - (d) records of the handling of any wastes accepted at the facility, including the amounts treated in the facility.
- (1) Throughout the active life of the facility, the person responsible shall prepare an annual report for the facility for the calendar year from January 1 to December 31, and shall place the report in the operating record by March 31 of the following year. The annual report shall contain the following information:
 - (a) the type and volume of feedstock received and processed in the calendar year,
 - (b) the amount of compost produced, stored, and shipped from the compost facility in the calendar year,
 - (c) The amount and quality of biogas generated, stored, utilised in the facility, or sold.
 - (d) If electricity generated from biogas, the amount of energy generated, utilised in the facility, or sold.
 - (e) the operating temperatures and moisture recorded.
 - (f) the surface water monitoring data,
 - (g) the groundwater monitoring data, where groundwater monitoring is required
 - (h) an analysis of the compost where it is intended for an unrestricted use
 - (i) any remedial action taken.

- (2) Typical Contents for the Annual Report are given in Table.
- (3) A printed copy of the "Facility for biological processing of organic waste Annual Report" shall be kept in the administration building of the facility and shall be accessible to the public upon request.

Table 5: Indicative contents of the annual report

Executive Summary
1. Overview
2. Facility Information
3. Biological Processing Facility Input of waste material
4. Quantity and quality of products
5. Summary of Groundwater, surface water and leachate Monitoring Results
5.1. Weather conditions/ meteorological data
5.2. Leachate monitoring tests and results,
5.3. Leachate Management (treatment plant's effluent monitoring tests and results, recirculation, etc.)
5.4. Groundwater monitoring tests and results,
5.5. Biogas monitoring tests and results,
5.6. Records on the quality of surface water released to the environment,
5.7. Proposals on Environmental Monitoring Program
6. Summary of Biological processing Facility's Personnel Training Program
7. Emergency and/or corrective actions and measures
8. Attachments
Attachment A – Data and analysis regarding the input – output of materials
Attachment B – Annual Permit Renewal Application and Treatment Fees
Attachment C – Environmental monitoring tests results
Attachment D – Annual Operational Data (composting profile, anaerobic digestion monitoring data, operational faults etc.)

Health and Safety

- (1) All works and operations at the facility shall be carried out in accordance with current rules and legislation regarding occupational health and safety.
- (2) Regular and documented instructions of the facility staff concerning safety rules are mandatory. Such documented instructions are further required for the newly employed staff and when new machinery, equipment or facilities are taken into operation.
- (3) Accidents can be minimised by regularly implementing safety and training programmes and effective site management. These programmes should include the following:
 - (a) Identification of potential sources of risk,
 - (b) Assessment of the degree of risk from these sources,
 - (c) Determination of procedures for addressing the risks,

- (d) Development of procedures to minimize accident/ risks when they occur; and
 - (e) On-going monitoring to ensure proper implementation of safe working procedures.
- (4) The operator, considering these provisions, should ensure the safety, health, and welfare at work of all persons employed in the facility. This duty should include the following priorities:
- (a) Plant and machinery should be maintained in a safe condition,
 - (b) Risks should be appraised, and safe systems of work planned, organized and performed,
 - (c) Suitable safety information, instruction, training, and supervision should be provided,
 - (d) Suitable protective clothing and equipment should be provided and maintained,
 - (e) Emergency plans should be prepared and revised as necessary,
 - (f) That the presence of any article or substance on the site must not present unacceptable risks to health; and
 - (g) Adequate welfare facilities for staff must be provided and maintained.

Personnel

One or more persons must be formally designated for facility safety issues. These persons should understand the statutory requirements, be able to act as competent persons under the legislation and ensure the continued maintenance of a safe system of work. The later tasks should include matters relating to training and supervision. They should be responsible for the identification of hazards and designated managers should transmit such information by verbal or written instructions to the workforce, contractors, facility users, and facility visitors. Designated persons should undertake regular site safety inspections, with written reports of inspections maintained at the site.

Training

- (1) Operators should provide suitable training and instruction to site employees, both full time and part-time. The operator should also ensure that any contractor and sub-contractor working on site is also informed of the hazards and the necessary precautions. There is also a responsibility for persons employing contractors to ensure that the latter can act as competent project supervisors concerning the safety aspects of the relevant design and construction elements of their work. All site personnel should be familiar with contingency procedures in the event of accident, injury, fire, etc.
- (2) The locations of emergency equipment should be identified during routine employee training. Phone numbers for local police, fire and ambulance services, hospitals, and other relevant information should be prominently displayed for use in the event of an emergency.

Staffing Levels

- (1) All staff and users of the facility should be effectively supervised. No site open to receive waste should be manned by one member of staff working on their own. Similarly, no unloading of vehicles should occur in the absence of site staff or out of their immediate view.

Medical

- (1) Good personal hygiene is essential to workers on waste treatment facilities and hence washing facilities supplied with hot and cold water must be provided. It is suggested that all workers at the facilities, including those employed temporarily by the operator, or by contractors working on the site, should have adequate medical protection and vaccination

against diseases and tetanus. This protection must be kept up to date, with boosters given at 10 yearly intervals or sooner according to the medical instructions. Workers must pass a mandatory preliminary and periodical medical examination in accordance with the existing requirements.

First Aid

- (1) A first aid box should be available on-site in a clearly marked location. The contents of the box should be monitored for use so that supplies are checked regularly by a named individual responsible for its upkeep. The operator should arrange for recognised occupational first aid training, with a minimum of one person with a first aid qualification normally present on site. All staff should be familiar with the first aid facilities available on site.

Personal Protection Equipment

- (1) High visibility clothing should always be provided and worn by all site staff and visitors during their presence in the facility. Safety boots and/or wellingtons should be supplied to all site workers. They should have steel toecaps and have a steel insert in the sole to resist injury from projections of glass, metal, or other items in the incoming waste. Gloves should be supplied as required. The gloves should be puncture-resistant and should be suitable for the relevant task, e.g. litter collection, vehicle fuelling, cold weather conditions. Safety helmets, earplugs, and eye protection should be available, as necessary. Operatives at waste treatment facilities work in all weather conditions and will need to be provided with suitable windproof wet weather clothing.
- (2) When working at the facility, where waste is handled, the following personal protective equipment shall be used additionally:
 - (a) Dust masks or respirator devices.
 - (b) Goggles or full-face masks.
 - (c) Pressurised cabins on the equipment operating at the organic waste processing area.
- (3) Reflective safety jackets or waistcoats must be worn all the time. The Operator of the facility is responsible for providing necessary personal protective equipment as stated above or which might be needed in a specific situation or for a specific assignment.

Traffic and Machinery

- (1) In general, rules, which apply to traffic on public roads, also apply to the premises of the facility. Additionally, an overall speed limit for all vehicles and mobile machinery of a maximum of 30 km/h shall apply inside the site of the facility.
- (2) The Operator of the facility shall display clear markings and signboards stating the directives for all traffic at the premises. Signs stating the overall speed limit must be placed at the entrance gate. Other signs within the premises must show driving directions for the incoming and outgoing vehicles with clear marking of one-way roads and right of way at crossings.
- (3) Areas where traffic of transport vehicles and mobile working machinery, e.g. the front loader, are mixed and areas, where staff may be working, are potential risk spots. These areas shall be clearly marked for the attention of the drivers and pedestrians, and the speed limit shall be reduced even further.
- (4) Only vehicles and other mobile machinery that either belong to the facility or have a legal task are allowed at the premises of the facility. The vehicles may only move along the internal roads of the facility observing the above-stated rules for traffic.

- (5) When moving by foot on the premises or working on the ground all staff and visiting personnel shall always watch out for traffic. Special attention shall be paid to reversing vehicles and to machinery in operation.
- (6) The Operator is responsible for maintaining sufficient illumination of trafficked and working areas during working hours.
- (7) Any machinery may only be used for the purpose it was constructed. The following general rules must be observed:
 - (a) Any adjustments of machinery and its movable parts may only be done while the machinery is turned off.
 - (b) A machine may never be left running idle. The engine shall be turned off and the key removed from the machinery/vehicle when the operator leaves the machine.
 - (c) No machinery or vehicle may be left with movable parts - e.g. the shovel of the front loader - lifted.
 - (d) The areas, where vehicles or other machinery usually heats up, shall be kept free from combustible materials to minimize the risks for fire.
 - (e) At all times, the windows of the cabin of any machinery or vehicle shall be kept clean, to ensure a clear view for the operator.

Scavenging

Scavenging is the separation and removal for re-use of items. The practice is dangerous and interferes with the efficient operation of a facility. Scavengers should be prohibited by an operator wishing to manage its site in line with international best practice.

Security

The security system implemented at the facility should meet with the following objectives:

- (1) Protection of workers and users from physical attack/ theft of their property while on site.
- (2) Prevention of access to the site except for legitimate purposes, i.e. prevention of unauthorised salvaging / theft / loitering.
- (3) Protection of private and public property from vandalism/ theft.
- (4) A system whereby guards would be required to report on all incidents during their shift should be in place, with effective follow-up of all incidents.
- (5) A monitoring system should always be introduced to ensure the efficiency of the guards.
- (6) It is to be ensured that security is provided during hours of operation.
- (7) Where required, the duties of the security guards must be extended to assist on operational matters, e.g. for the monitoring of incoming loads to verify that no unauthorised waste enters the site. Such additions to their duties are however formally to be added to their roles and responsibilities.
- (8) Security guards are not to interfere with any of the operational matters for which they are not specifically tasked.
- (9) Unless there is a particular operational need for the facility to be accessible after hours, the site must be locked outside of the operating hours.
- (10) The contact details for the person responsible for the facility must be clearly visible from the outside, in the event of there being a need to obtain access in the event of an emergency.
- (11) Communication systems are to be provided to ensure that guards are always in contact with their control room during the night shift.
- (12) Appropriate communication systems are to be provided that will enable the guard on site to call on the backup resources from anywhere on site.

Fire protection

- (1) A composting facility fire protection plan could include, but not necessarily be limited to the following:

- (a) Having a readily available, pressurised water supply, complete with standpipes, hose bibs, and, in some cases, either a sprinkler system or hydrants for connection to pumper trucks.
- (b) A road design that permits easy access by fire-fighting equipment.
- (c) Providing aisles between windrows and buildings as a firebreak and for access.
- (d) Providing buffer distances between potentially combustible materials.
- (e) Access to earth moving equipment, e.g. a tracked excavator, in the event a deep subsurface fire occurs and needs to be isolated or dug out.
- (f) Having a readily available stockpile of soil to smother fires (as an alternative to using water)

Emergency procedures

- (1) Emergency procedures are to be developed as part of the operation and maintenance plan. The emergency plan should be communicated to all personnel, with refresher courses being provided at regular intervals.
- (2) Security guards should not only be trained in the protection of the facility, but must also be trained in first aid as well as fire-fighting techniques to deal with situations when they may be the only people on site when a fire is detected.
- (3) A communication network must be established that will ensure involvement from all relevant parties in the event of an emergency; the security company, GWMF owner, operator, as well as police, fire brigade and ambulance, where required. Such information is to be communicated with to relevant stakeholders on a regular basis. The following is to be provided for:
 - (a) Safety, emergency, and fire-protection plans and procedures.
 - (b) Contact details with a means of communication with the fire brigade, police, or ambulance services.
 - (c) First aid equipment.
 - (d) Firefighting equipment.
 - (e) The relevant protective equipment and clothing.
- (4) All fire extinguishers as well as first aid kits are to be placed on a routine maintenance plan to ensure that such equipment is always ready for use.

Input acceptance procedure

Waste acceptable for reception at the facility

- (1) During the reception procedures, the operator shall ensure, that only waste, which can be accepted at the biological treatment facility is admitted and that the waste is controlled and registered before admittance. Permitted wastes are limited to non-hazardous wastes and do not include hazardous wastes such as asbestos. The facility can receive only solid waste as listed in its environmental and operational permit. Waste shall only be accepted if it is of a type and quantity listed in Table 6 and it conforms to the description in the documentation supplied by the producer and holder.

Table 6. Waste types

Code	Waste type
02	WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING
02 01	wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing
02 01 01	sludges from washing and cleaning
02 01 02	animal-tissue waste
02 01 03	plant-tissue waste
02 01 06	animal faeces, urine, and manure (including spoiled straw), effluent, collected

Code	Waste type
	separately and treated off-site
02 01 07	wastes from forestry
02 02	wastes from the preparation and processing of meat, fish and other foods of animal origin
02 02 02	animal-tissue waste
02 02 03	materials unsuitable for consumption or processing
02 03	wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation
02 03 01	sludges from washing, cleaning, peeling, centrifuging and separation
02 03 04	materials unsuitable for consumption or processing
02 05	wastes from the dairy products industry
02 05 01	materials unsuitable for consumption or processing
02 06	wastes from the baking and confectionery industry
02 06 01	materials unsuitable for consumption or processing
02 07	wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)
02 07 01	wastes from washing, cleaning and mechanical reduction of raw materials
02 07 02	wastes from spirits distillation
02 07 04	materials unsuitable for consumption or processing
03	WASTES FROM WOOD PROCESSING AND THE PRODUCTION OF PANELS AND FURNITURE, PULP, PAPER AND CARDBOARD
03 01	wastes from wood processing and the production of panels and furniture
03 01 01	waste bark and cork
03 01 05	sawdust, shavings, cuttings, wood, particle board and veneer not containing hazardous substances
03 03	wastes from pulp, paper and cardboard production and processing
03 03 01	waste bark and wood
04	WASTES FROM THE LEATHER, FUR AND TEXTILE INDUSTRIES
04 02	wastes from the textile industry
04 02 21	wastes from unprocessed textile fibres
15	WASTE PACKAGING, ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED
15 01	packaging (including separately collected municipal packaging waste)
15 01 02	plastic packaging (biodegradable compostable bags)
19	WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTEWATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE
19 05	wastes from aerobic treatment of solid wastes
19 05 03	off-specification compost
19 06	wastes from anaerobic treatment of waste
19 06 04	digestate from anaerobic treatment of municipal waste

Code	Waste type
19 08	wastes from wastewater treatment plants not otherwise specified
19 08 05	sludges from treatment of urban wastewater
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 01 08	biodegradable kitchen and canteen waste
20 01 38	wood other than those containing hazardous substances
20 02	garden and park wastes (including cemetery waste)
20 02 01	biodegradable waste
20 02 03	other non-biodegradable wastes
20 03	other municipal wastes
20 03 02	waste from markets
20 03 04	septic tank sludge
20 03 06	waste from sewage cleaning

Permission for waste acceptance

Only wastes from waste producers or collectors, who have a valid permit, are accepted.

Together with the first delivery, the waste producer must apply for the delivery of waste to the facility. The application shall state the following data:

- Full name of the organisation/company
- Address
- Telephone number
- Managers' names.
- Registration number/code of the truck(s) to be used for the delivery of waste to the facility.
- Types of waste to be delivered
- Documentation for the waste disposal approval licensed by the Municipality

After the first delivery the waste producer receives the following documents for admissible waste:

- A registration card containing Client No, which will define the registered names, address, telephone- and truck registration number(s).
- Waste declaration, which specifies the types of waste that the waste producer, can deliver to the facility.
- Waste collection companies must obtain similar registration cards for each of their collection trucks at the first delivery of waste to the facility.

Non-Conforming Waste Consignments

Non-conforming waste consignments arriving at a waste disposal site may be identified at:

- Site reception,
- Weighbridge,
- Waste inspection facility; and

Non-conformances may be due to the documentation being incorrect, insufficient, or inaccurate, or due to the waste not conforming to the documentation, the waste management license, or other legal requirements. The facility's management team should detail in writing how to deal with nonconforming waste. All site personnel should be aware of the chain of reporting and the actions to be taken. An area should be set aside for vehicles to be held, pending a decision regarding their future. The regulatory authority should be contacted to provide advice regarding whether the load can be accepted or whether it should be recognized to another location.

In the case of the delivery of large quantities of waste, the facility must be informed in advance. The facility determines the time for the delivery.

Exclusion of waste suppliers

The Operator of the Biological Treatment Facility can deny suppliers to use the facility if the suppliers intentionally deliver prohibited waste or repeatedly violates the site regulations.

Reception of Waste in Small Vehicles or Private Cars

Private individuals can deliver waste to the Facility by their transport without prior agreement. The Facility Operator must direct the relevant vehicles in the incoming loads sampling area for load control.

Control of incoming waste

All waste delivered to the facility shall be controlled by the Operator of the Facility. The control comprises:

- Registration of the waste transportation truck and the waste producer.
- Weighing and registration of the waste.
- Control of delivery documents (i.e. declaration and registration card).
- Direct visual control of the waste for type and composition for compliance of waste type with documentation.
- Waste delivered in trucks shall be inspected visually at the reception area in connection with the weighing procedure and after unloading in the Biological Treatment Facility.
- All information is recorded in the data system, stored, and secured.

Registration

Records of all data concerning reception and transport of waste to and from the Facility are registered in the software data system connected to the weighbridge. The operator of the weighbridge and registration system is responsible for the input to the data system of all relevant data for each incoming truck, for each shipment of waste leaving the Biological Treatment Facility or being rejected at the gate. Input data will consist of:

- Date and time for the arrival of the delivery to the Biological Treatment Facility.
- Data regarding the waste supplier:
- Full name of the company.
- Address.
- Telephone number.
- Managers' names.
- Registration number/code of the truck.

Companies delivering waste regularly will receive a registration card as described previously. The above data is encoded in the card and will automatically be recorded in the computer system.

The waste producer and the origin of the waste as stated in the waste declaration

If the waste is delivered in trucks that have no registration card the above-mentioned data shall be recorded manually.

Weighing and registration of the waste

All incoming and outgoing trucks carrying waste shall pass over the weighbridge and be weighed and registered. Data from the weighing procedure (including data for rejected waste and waste transported from the Biological Treatment Facility) shall be recorded in the data system.

Persons specifically trained in its use shall operate the systems. A special instruction manual for operating the data recording system will be prepared for the staff by the supplier of the weighing system.

The manufacturers' operation manuals for the individual units shall be adhered to strictly.

Each weighing procedure shall as a minimum comprise:

- Truck registration number
- Owner of the truck
- Waste origin/producer
- Waste type
- Weight of the waste.
- Acceptance/non-acceptance of the waste at the Biological Treatment Facility

Data from each weighing procedure shall be recorded in a database. At the end of each day, a back-up copy of the weighing of the day shall be produced in an adequate storage unit i.e. USB flash drive, CD, etc. The back-up files shall be stored in the Administration Building.

Rejection of Waste

If the control shows that the waste is not in compliance with the types of waste permitted to be managed at the Biological Treatment Facility, then the waste shall be rejected.

- If the waste is still on the delivery truck, the driver will be required to return the waste to the producer of the waste. The waste producer can then perform a pre-treatment (e.g. sorting) to bring the waste into compliance with the types of waste for which he has an approved declaration, and which will allow the Biological Treatment Facility to receive the treated waste.
- If the waste is already unloaded at the Biological Treatment Facility reception area, but not yet processed, the waste shall be loaded back into the truck and returned to the waste producer at his expense.
- In case it is not possible to re-load the waste into the truck (e.g. when the waste has been delivered in closed or compacting trucks) the waste will then be loaded into an open maxi-container and returned to the waste producer or the transporting company at his expense.

If a more detailed analysis of the waste is required before final acceptance or rejection, the waste load temporarily rejected and is returned to its producer for storage until the final decision can be made.

For all incidents where delivery is rejected, the Site Manager must issue a violation statement and inform the competent authority(ies).

Waste Supplier Departing the Facility

For conforming waste, the truck driver will receive a confirmation of the delivery. The receipt documents will indicate the basic delivery data, the delivered quantity (tons), and the fee for receiving the waste at the facility.

Capacity of the Biological Processing Facility

Capacity for feedstock

The amount of feedstock in a composting or anaerobic facility must not at any time exceed the total design capacity of the facility.

Capacity for compost

At least half of the compost stored at a composting facility must be removed annually from the facility beginning in the third year after facility start-up.

Capacity for residuals

- (1) Residuals from the composting process must
 - (i) be stored to prevent vector attraction, and
 - (ii) be disposed of on a regular basis in accordance with the regulations and statutes.
- (2) Residuals that are stored at a composting facility must not at any time exceed the residual outcome of 15 working in total.