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Ireland

**WASTE LICENCE
Recommended Decision**

Licence Register Number:	218-1
Applicant/Licensee:	Kings Tree Services Ltd
Location of Facility:	Coolbeg, Co. Wicklow.

INTRODUCTION

This introduction is not part of the licence and does not purport to be a legal interpretation of the licence.

This licence is for the construction and operation of a Composting Facility at Coolbeg, Co. Wicklow. The green waste will comprise wood wastes generated by the KTS tree surgery business, garden and park waste produced during improvement and maintenance works by landscape gardeners, grass and shrub trimmings produced by individual householders and timber and wood waste recovered during construction and demolition works.

The composting operation will involve pre-treatment to shred and mix the green waste, composting in open windrows, maturation and post treatment to remove impurities. The finished product will be suitable for horticultural and agricultural use.

When fully operational the facility will accept approximately 40,000 t of green waste annually and produce approximately 25,000 t of compost. In the start-up phase it is envisaged that there will be an annual throughput of 4,500 t of green waste rising to 40,000t by year 5.

The licensee must manage and operate the facility to ensure that the activities do not cause environmental pollution. The licensee is required to carry out regular environmental monitoring and submit all monitoring results, and a wide range of reports on the operation and management of the facility to the Agency.

The licence sets out in detail the conditions under which Kings Tree Services Ltd will operate and manage this facility.

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Glossary of Terms

All terms in this licence should be interpreted in accordance with the definitions in the Waste Management Acts 1996 to 2003, (the Acts), unless otherwise defined in this section.

Aerosol	A suspension of solid or liquid particles in a gaseous medium.
Bioaerosol	An aerosol of biological particles
Biodegradable waste	Any waste that is capable of undergoing anaerobic or aerobic decomposition, such as food, garden waste, sewage sludge, paper and paperboard.
Adequate lighting	20 lux measured at ground level.
AER	Annual Environmental Report.
Agreement	Agreement in writing.
Annually	At approximately twelve monthly intervals.
Attachment	Any reference to Attachments in this licence refers to attachments submitted as part of this licence application.
Application	The application by the licensee for this licence.
Appropriate facility	A waste management facility, duly authorised under relevant law and technically suitable.
BAT	Best Available Techniques.
Bi-annually	All or part of a period of six consecutive months.
Biennially	Once every two years.
BOD	5 day Biochemical Oxygen Demand.
COD	Chemical Oxygen Demand.
Compost	Stable, sanitised and humus like material rich in organic matter and free from offensive odours resulting from composting, of separately collected biowaste which complies with the environmental quality classes outlined in Schedule F: of this licence.
Containment boom	A boom which can contain spillages and prevent them from entering drains or watercourses or from further contaminating watercourses.
Daily	During all days of plant operation, and in the case of emissions, when emissions are taking place; with at least one measurement on any one day.
Day	Any 24 hour period.
Daytime	0800 hrs to 2200 hrs
DB(A)	Decibels (A weighted).

DO	Dissolved Oxygen.
Documentation	Any report, record, result, data, drawing, proposal, interpretation or other document in written or electronic form which is required by this licence.
Drawing	Any reference to a drawing or drawing number means a drawing or drawing number contained in the application, unless otherwise specified in this licence.
EMP	Environmental Management Programme.
Emission Limits	Those limits, including concentration limits and deposition rates established in <i>Schedule B</i> of this licence.
Environmental Damage	Has the meaning given it in Directive 2004/35/EC
EPA	Environmental Protection Agency.
European Waste Catalogue (EWC)	A harmonised, non-exhaustive list of wastes drawn up by the European Commission and published as Commission Decision 2000/532/EC and any subsequent amendment published in the Official Journal of the European Community.
Facility	Any site or premises used for the purposes of the recovery or disposal of waste.
Forced aeration	The supply of air to a compost pile, by pumping (positive pressure) or by sucking air through the composting material (negative pressure)
Fortnightly	A minimum of 24 times per year, at approximately two week intervals.
GC/MS	Gas Chromatography/Mass Spectroscopy
Green waste	Waste wood (excluding timber), plant matter such as grass cuttings, and other vegetation.
Heavy Metals	This term is to be interpreted as set out in "Parameters of Water Quality, Interpretation and Standards" published by the Agency in 2001. ISBN 1-84095-015-3.
Hours of Operation	The hours during which the facility is authorised to be operational.
Hours of Waste Acceptance	The hours during which the facility is authorised to accept waste
Incident	The following shall constitute an incident for the purposes of this licence: <ul style="list-style-type: none"> a) an emergency; b) any emission which does not comply with the requirements of this licence; c) any exceedence of the daily duty capacity of the waste handling equipment; d) any trigger level specified in this licence which is attained or exceeded; and, e) any indication that environmental pollution has, or may have, taken place.
Industrial Waste	As defined in Section 5(1) of the Waste Management Acts 1996 to 2003.

Inert waste	Waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater.
Landfill Directive	Council Directive 1999/31/EC.
Leq	Equivalent continuous sound level.
Licensee	King's Tree Service
Liquid Waste	Any waste in liquid form and containing less than 2% dry matter.
Municipal waste	As defined in Section 5(1) of the Acts.
Monthly	A minimum of 12 times per year, at approximately monthly intervals.
Night-time	2200 hrs to 0800 hrs.
Noise Sensitive Location (NSL)	Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other facility or area of high amenity which for its proper enjoyment requires the absence of noise at nuisance levels.
Oil Separator	Device installed according to the International Standard I.S.EN 858-2:2003 (Separator systems for light liquids, (e.g. oil and petrol)-Part 2:Selection of nominal size, installation, operation and maintenance.
PER	Pollution Emission Register.
Quarterly	All or part of a period of three consecutive months beginning on the first day of January, April, July or October.
Regional Fisheries Board	The Eastern Regional Fisheries Board
Sanitary Authority	Wicklow County Council
Sanitary Effluent	Waste water from facility toilet, washroom and canteen facilities
Sample(s)	Unless the context of this licence indicates to the contrary, samples shall include measurements by electronic instruments.
Sludge	The accumulation of solids resulting from chemical coagulation, flocculation and/or sedimentation after water or wastewater treatment, with greater than 2% dry matter.
SOP	Standard Operating Procedure.
Specified Emissions	Those emissions listed in <i>Schedule B: Emission Limits</i> of this licence.
Standard Method	A National, European or internationally recognised procedure (eg. I.S. EN, ISO, CEN, BS or equivalent), as an in-house documented procedure based on the above references, a procedure as detailed in the current edition of "Standard Methods for the Examination of Water and Wastewater", (prepared and published jointly by A.P.H.A., A.W.W.A & W.E.F), American Public Health

Association, 1015 Fifteenth Street, N.W., Washington DC 20005, USA; or, an alternative method as may be agreed by the Agency.

Stabilised Biowaste	Waste resulting from the mechanical/biological treatment of unsorted waste or residual municipal waste including treated biowaste which does not comply with the environmental quality classes outlined in Schedule F of this licence.
Storm Water	Rain water run-off from roof and non-process areas.
The Agency	Environmental Protection Agency.
Trade Effluent	Trade Effluent has the meaning given in the water pollution Acts 1977 and 1990
Trigger Level	A parameter value, the achievement or exceedance of which requires certain actions to be taken by the licensee.
Weekly	During all weeks of plant operation, and in the case of emissions, when emissions are taking place, with at least one measurement in any one week.
Windrow	An elongated pile of composting material

Decision & Reasons for the Decisions

The Agency is satisfied, on the basis of the information available, that subject to compliance with the conditions of this licence, any emissions from the activity will comply with and will not contravene any of the requirements of Section 40(4) of the Waste Management Acts 1996 to 2003.

In reaching this decision the Environmental Protection Agency has considered the application and supporting documentation received from the applicant and the report of its inspector.

Part I Schedule of Activities Licensed

In pursuance of the powers conferred on it by the Waste Management Acts 1996 to 2003, the Environmental Protection Agency (the Agency) proposes, under Section 40(1) of the said Act to grant this Waste Licence to Kings Tree Services Ltd Limited to carry on the waste activities listed below at Coolbeg, Co. Wicklow subject to conditions, with the reasons therefor and the associated schedules attached thereto set out in the licence.

Licensed Waste Recovery Activities, in accordance with the Fourth Schedule of the Waste Management Acts 1996 to 2003

Class 2.	Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological processes).
Class 13.	Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.

Part III Conditions

Condition 1. Scope

- 1.1. Waste shall be accepted at/~~removed~~/from the facility only between the hours of 7 a.m. to 7 p.m. Monday to Friday inclusive and 7 a.m. to 1.00 p.m. on Saturdays, **unless otherwise agreed with the Agency.**
- 1.2. Waste shall not be accepted at the facility on Bank Holidays.
- 1.3. Machinery (with the exception of automated plant) used at the facility shall be operated only during the hours of 8am–6 pm Monday to Saturday inclusive.
- 1.4. Unless otherwise agreed with the Agency, only the wastes as outlined in *Schedule A: Waste Acceptance* of this licence and as listed under Annex 1 of the EC Working Document 'Biological Treatment of Biowaste' (2nd draft) or subsequent amendments shall be accepted at the facility for the production of compost
- 1.5. The facility shall be controlled, operated, and maintained and emissions shall take place as set out in this licence. All programmes required to be carried out under the terms of this licence, become part of this licence.
- 1.6. For the purposes of this licence, the facility authorised by this licence, is the area of land outlined in red colour on Drawing No.0411701-B2 of the application. Any reference in this licence to facility shall mean the area thus outlined in red colour. The licensed activities shall be the carried on only within the area outlined.
- 1.7. No alteration to, or reconstruction in respect of, the activity or any part thereof which would, or is likely to, result in
 - 1.7.1.1. a material change or increase in:
 - The nature or quantity of any emission,
 - The abatement/treatment or recovery systems,
 - The range of processes to be carried out,
 - The fuels, raw materials, intermediates, products or wastes generated, or
 - (b) any changes in:
 - Site management infrastructure or control with adverse environmental significance, shall be carried out or commenced without prior notice to, and without the agreement of, the Agency.
- 1.8. This licence is for the purposes of waste licensing under the Waste Management Acts 1996 to 2003 only and nothing in this licence shall be construed as negating the licensee's statutory obligations or requirements under any other enactments or regulations.

Reason: To clarify the scope of this licence.

Condition 2. Management of the Facility

2.1 Facility Management

- 2.1.1 The licensee shall employ a suitably qualified and experienced facility manager who shall be designated as the person in charge. The facility manager or a nominated, suitably qualified and experienced, deputy shall be present on the facility at all times during its operation or as otherwise required by the Agency.

2.1.2 The licensee shall ensure that personnel performing specifically assigned tasks shall be qualified on the basis of appropriate education, training and experience, as required and shall be aware of the requirements of this licence. In addition, the facility manager and his/her deputy shall successfully complete FAS waste management training programme or equivalent agreed with the Agency.

2.2 Environmental Management System (EMS)

2.2.1 The licensee shall establish and maintain an Environmental Management System (EMS) within six months of the date of grant of this licence. The EMS shall be updated on an annual basis.

2.2.2 The EMS shall include as a minimum the following elements:

2.2.2.1 Management and Reporting Structure.

2.2.2.2 Schedule of Environmental Objectives and Targets.

The licensee shall prepare a Schedule of Environmental Objectives and Targets. The Schedule shall as a minimum provide for a review of all operations and processes, including an evaluation of practicable options, for energy and resource efficiency, the use of cleaner technology, cleaner production, and the prevention, reduction and minimisation of waste, and shall include waste reduction targets. The Schedule shall include time frames for the achievement of set targets and shall address a five year period as a minimum. The Schedule shall be reviewed annually and amendments thereto notified to the Agency for agreement as part of the Annual Environmental Report (AER).

2.2.2.3 Environmental Management Programme (EMP)

Prior to the commencement of waste acceptance the licensee shall submit to the Agency for agreement an EMP, including a time schedule, for achieving the Environmental Objectives and Targets prepared under Condition 2.2.2.2. Once agreed the EMP shall be established and maintained by the licensee. It shall include:

- (b) designation of responsibility for targets;
- (c) the means by which they may be achieved;
- (d) the time within which they may be achieved.

The EMP shall be reviewed annually and amendments thereto notified to the Agency for agreement as part of the Annual Environmental Report (AER).

A report on the programme, including the success in meeting agreed targets, shall be prepared and submitted to the Agency as part of the AER. Such reports shall be retained on-site for a period of not less than seven years and shall be available for inspection by authorised persons of the Agency.

2.2.2.4 Documentation

- (i) The licensee shall establish and maintain an environmental management documentation system which shall be to the satisfaction of the Agency.
- (ii) The licensee shall issue a copy of this licence to all relevant personnel whose duties relate to any condition of this licence.

2.2.2.5 Corrective Action

The licensee shall establish procedures to ensure that corrective action is taken should the specified requirements of this licence not be fulfilled. The responsibility and authority for initiating further investigation and corrective action in the event of a reported non-conformity with this licence shall be defined.

2.2.2.6 Awareness and Training

The licensee shall establish and maintain procedures for identifying training needs, and for providing appropriate training, for all personnel whose work can have a significant effect upon the environment. Appropriate records of training shall be maintained.

2.2.2.7 Communications Programme

The licensee shall establish and maintain a Communications Programme to ensure that members of the public can obtain information at the facility, at all reasonable times, concerning the environmental performance of the facility.

Reason: To make provision for management of the activity on a planned basis having regard to the desirability of ongoing assessment, recording and reporting of matters affecting the environment.

Condition 3. Infrastructure and Operation

- 3.1 The licensee shall establish all infrastructure referred to in this licence prior to the commencement of the licensed activities or as required by the conditions of this licence.
- 3.2 Specified Engineering Works
- 3.2.1 The licensee shall submit proposals for all Specified Engineering Works, as defined in *Schedule D Specified Engineering Works*, of this licence, to the Agency for its agreement at least two months prior to the intended date of commencement of any such works. No such works shall be carried out without the prior agreement of the Agency.
- 3.2.2 All specified engineering works shall be supervised by a competent person(s) and that person, or persons, shall be present at all times during which relevant works are being undertaken.
- 3.2.3 Following the completion of all specified engineering works, the licensee shall complete a construction quality assurance validation. The validation report shall be made available to the Agency on request. The report shall, as appropriate, include the following information:-
- A description of the works;
 - As-built drawings of the works; and
 - Any other information requested in writing by the Agency.
- 3.3 Facility Security
- 3.3.1 Security and stockproof fencing and gates shall be installed and maintained. The base of the fencing shall be set in the ground. Subject to the implementation of the restoration and aftercare plan and to the agreement of the Agency, the requirement for such site security may be removed.
- 3.3.2 Gates shall be locked shut when the facility is unsupervised.
- 3.3.3 The licensee shall remedy any defect in the gates and/or fencing as follows:-

- 3.3.3.1 A temporary repair shall be made by the end of the working day; and
- 3.3.3.2 A repair to the standard of the original gates and/or fencing shall be undertaken within three working days.

3.4 Facility Roads and Site Surfaces

- 3.4.1 Effective site roads shall be provided and maintained to ensure the safe movement of vehicles within the facility.
- 3.4.2 The licensee shall provide, and maintain an impermeable concrete surface in the areas of the facility on all areas of the facility, the surfaces shall be concreted and constructed to British Standard 8110 or an alternative as agreed by the Agency.

3.5 Facility Office

- 3.5.1 The licensee shall provide and maintain an office at the facility. The office shall be constructed and maintained in a manner suitable for the processing and storing of documentation.
- 3.5.2 The licensee shall provide and maintain a working telephone and a method for electronic transfer of information at the facility.

3.6 Compost facility

- 3.6.1 Appropriate infrastructure for the composting of waste shall be established and maintained at the facility. This infrastructure shall at a minimum comprise the following:
 - (a) The licensee shall, before commencement of the activities, provide a green waste composting area and associated infrastructure at the location shown on Drawings 1360: WP 1, WP 1A, P3, P4, P5, P6, and P 7 of the application;
 - (b) All trade effluent, leachate and/or storm water from composting operations shall drain to the trade/storm water drainage network shown on Drawing 1360 WP 1 A of the application;

3.7 Waste Inspection and Quarantine Areas

- 3.7.1 A Waste Inspection Area and a Waste Quarantine Area shall be provided and maintained at the facility.
- 3.7.2 These areas shall be constructed and maintained in a manner suitable, and be of a size appropriate, for the inspection of waste and subsequent quarantine if required. The waste inspection area and the waste quarantine area shall be clearly identified and segregated from each other.
- 3.7.3 Drainage from the quarantine area shall be directed to the process effluent management system.
- 3.7.4 While awaiting collection, mature compost shall be stored in areas protected against uncontrolled run-off and nuisance formation.

3.8 Waste handling, ventilation and processing plant

- 3.8.1 Items of plant deemed critical to the efficient and adequate processing of waste at the facility shall be provided on the following basis:-
 - a) 100% duty capacity;
 - b) 20% standby capacity available on a routine basis; and
 - c) Provision of contingency arrangements and/or back up and spares in the case of breakdown of critical equipment.

- 3.8.2 Prior to the commencement of waste acceptance, the licensee shall provide a report for the agreement of the Agency detailing the duty and standby capacity in tonnes per day, of all waste handling and processing equipment to be used at the facility. These capacities shall be based on the licensed waste intake, as per *Schedule A: Waste Acceptance*, of this licence.
- 3.8.3 The quantity of waste to be accepted at the facility on a daily basis shall not exceed the duty capacity of the equipment at the facility. Any exceedance of this intake shall be treated as an incident.
- 3.8.4 The licensee shall provide shut-off valves on any surface/wastewater discharge lines.
- 3.9 Weighbridge and Wheel Cleaning
- 3.9.1 The licensee shall provide and maintain a weighbridge and access to appropriate wheel cleaning equipment at the facility.
- 3.9.2 The wheel cleaner shall be used by all vehicles leaving the facility as required to ensure that no process water or waste is carried off-site. All water from the wheel cleaning area shall be directed to the trade effluent drainage network.
- 3.9.3 The wheel-cleaner shall be inspected on a daily basis and drained as required. Silt, stones and other accumulated material shall be removed as required from the wheel-cleaner and disposed of appropriately.
- 3.10 Leachate Management Infrastructure
- 3.10.1 Leachate management infrastructure shall be provided and maintained at the facility as described in the Application documentation, or as may be varied by a licence condition.
- 3.10.2 All structures for the storage and/or treatment of leachate shall be fully enclosed except for inlet and outlet piping
- 3.11 Groundwater
- 3.11.1 Groundwater monitoring wells shall be constructed having regard to the guidance given in the Agency's landfill manual "Landfill Monitoring".
- 3.12 Process Control Monitoring System
- 3.12.1 Prior to the commencement of waste acceptance a process control monitoring system shall be installed and maintained at the facility. As a minimum the system shall record the following information:
- 1.8.1.1. temperature and oxygen content of the compost at all stages during its production
- 3.13 Facility Notice Board
- 3.13.1 The licensee shall provide and maintain an Facility Notice Board on the facility so that it is legible to persons outside the main entrance to the facility. The minimum dimensions of the board shall be 1200 mm by 750 mm.
- 3.13.2 The board shall clearly show:-
- a) the name and telephone number of the facility;
 - b) the normal hours of operation;

- c) the name of the licence holder;
- d) an emergency out of hours contact telephone number;
- e) the licence reference number; and
- f) where environmental information relating to the facility can be obtained.

3.14 The licensee shall install on all emission points such sampling points or equipment, including any data-logging or other electronic communication equipment, as may be required by the Agency. All such equipment shall be consistent with the safe operation of all sampling and monitoring systems.

3.15 Sampling equipment shall be operated and maintained such that sufficient sample is collected to meet both internal monitoring requirements and those of the Agency. A separate composite sample or homogeneous sub-sample (of sufficient volume as advised) should be refrigerated immediately after collection and retained as required for EPA use.

3.16 The licensee shall clearly label and provide safe and permanent access to all on-site sampling and monitoring points and to off-site points as required by the Agency.

3.17 Tank and Drum Storage Areas

3.17.1 All tank and drum storage areas shall be rendered impervious to the materials stored therein.

3.17.2 All tank and drum storage areas shall, as a minimum, be bunded, either locally or remotely, to a volume not less than the greater of the following:-

- (i) 110% of the capacity of the largest tank or drum within the bunded area; or
- (ii) 25% of the total volume of substance which could be stored within the bunded area

3.17.3 All drainage from bunded areas shall be diverted for collection and safe disposal.

3.17.4 All inlets, outlets, vent pipes, valves and gauges must be within the bunded area.

3.17.5 The integrity and water tightness of all the bunding structures and their resistance to penetration by water or other materials stored therein shall be tested and demonstrated by the licensee at least once every three years. This testing shall be carried out in accordance with any guidance published by the Agency.

3.17.6 All tanks and drums shall be labelled to clearly indicate their contents.

3.18 The licensee shall have in storage an adequate supply of containment booms and/or suitable absorbent material to contain and absorb any spillage at the facility. Once used the absorbent material shall be disposed of at an appropriate facility.

3.19 Silt Traps and Oil Separators

3.19.1 The licensee shall install and maintain silt traps and oil separator at the facility to ensure that all storm water discharges from the facility pass through a silt trap and oil separator prior to discharge. The separator shall be a Class I full retention separator and the silt traps and separator shall be in accordance with I.S. EN 585-2:2003 (separator systems for light liquids).

- 3.20 The licensee shall, within three months of the date of grant of this licence, install in a prominent location on the site a wind sock, or other wind direction indicator, which shall be visible from the public roadway outside the site.
- 3.21 The licensee shall operate a weather monitoring station on the site at a location agreed by the Agency, which records conditions of wind speed and wind direction.

REASON: To provide for appropriate operation of the facility to ensure protection of the environment.

Condition 4. Interpretation

- 4.1 Emission limit values for emissions to atmosphere in this licence shall be interpreted in the following way:
- 4.1.1 For Non-Continuous Monitoring
- (i) For any parameter where, due to sampling/analytical limitations, a 30 minute sample is inappropriate, a suitable sampling period should be employed and the value obtained therein shall not exceed the emission limit value.
 - (ii) For flow, no hourly or daily mean value, calculated on the basis of appropriate spot readings, shall exceed the relevant limit value.
 - (iii) For all other parameters, no 30 minute mean value shall exceed the emission limit value.
- 4.1.2 Composite Sampling:
- (i) For parameters other than pH and flow, eight out of ten consecutive composite results, based on flow proportional composite sampling, shall not exceed the emission limit value. No individual result similarly calculated shall exceed 1.2 times the emission limit value.
- 4.1.3 Discrete Sampling
- For parameters other than pH and temperature, no grab sample value shall exceed 1.2 times the emission limit value.
- 4.2 Noise
- 4.2.1 Noise from the facility shall not give rise to sound pressure levels (Leq,T) measured at **noise sensitive locations** of the activity which exceed the limit value(s).
- 4.3 Dust and Particulate Matter
- Dust and particulate matter from the activity shall not give rise to deposition levels which exceed the limit value(s).

Reason: To clarify the interpretation of limit values fixed under the licence.

Condition 5. Emissions

- 5.1 No specified emission from the facility shall exceed the emission limit values set out in *Schedule B: Emission Limits* of this licence. There shall be no other emissions of environmental significance.
- 5.2 The licensee shall ensure that the activities shall be carried out in a manner such that emissions including odours do not result in significant impairment of, and/or significant interference with amenities or the environment beyond the facility boundary.
- 5.3 No substance shall be discharged in a manner, or at a concentration which, following initial dilution, causes tainting of fish or shellfish.
- 5.4 The licensee shall ensure that vermin, birds, flies, mud, dust, litter and odours do not give rise to nuisance at the facility or in the immediate area of the facility. Any method used by the licensee to control any such nuisance shall not cause environmental pollution.
- 5.5 Emissions to Surface Water
 - 5.1.1 Unless otherwise agreed by the Agency no trade effluent, leachate and/or contaminated storm water shall be discharged to surface water drains and courses.
- 5.6 There shall be no direct emissions to groundwater.
- 5.7 There shall be no clearly audible tonal component or impulsive component in the noise emissions from the activity at the noise sensitive locations.

Reason: To provide for the protection of the environment by way of control and limitation of emissions.

Condition 6. Control and Monitoring

- 6.1 Dust/Odour Control
 - 6.1.1 In dry weather, site roads and any other areas used by vehicles shall be sprayed with water as and when required to minimise airborne dust nuisance.
 - 6.1.2 Prior to the date of commencement of the waste activities at the facility, the licensee shall install and provide adequate measures for the control of odours and dust emissions, including fugitive dust emissions, from the facility.
- 6.2 Litter Control
 - 6.2.1 The measures and infrastructure as described in the application documentation for this licence shall be applied to control litter at the facility.
 - 6.2.2 All loose litter or other waste, placed on or in the vicinity of the facility, other than in accordance with the requirements of this licence, shall be removed, subject to the agreement of the landowners, immediately and in any event by 10.00am of the next working day after such waste is discovered.
 - 6.2.3 The licensee shall ensure that all vehicles delivering waste to and removing waste and materials from the facility are appropriately covered.
- 6.3 Operational Controls
 - 6.3.1 Scavenging shall not be permitted at the facility.
 - 6.3.2 Gates shall be locked shut when the facility is unsupervised.
 - 6.3.3 The licensee shall provide and use adequate lighting during the operation of the facility in hours of darkness.

- 6.3.4 Fuels shall be stored only at appropriately banded locations on the facility.
- 6.3.5 The burning of waste on site is not permitted
- 6.3.6 All waste handling/processing plant shall be cleared of all waste and washed down on a weekly basis.
- 6.3.7 All wastewater from composting operations shall be collected and re-used in the composting process where possible. Any wastewater from the composting operations that is not re-used shall be tankered off-site for treatment at a location to be agreed in advance with the Agency
- 6.3.8 The licensee shall on a daily basis monitor and record the temperature and the moisture content of the material at a number of locations to be agreed in advance with the Agency.
- 6.4 Within three months of the date of grant of this licence the following information shall be submitted to the Agency for its agreement: the names, qualifications and a summary of relevant experience of all persons that will carry out all sampling and monitoring as required by this licence and who carry out the interpretation of the results of such sampling and monitoring. Any proposed changes to the above shall be submitted in writing to the Agency for its agreement.
- 6.5 Nuisance Monitoring
 - 6.5.1 The licensee shall, on a daily basis, inspect the facility and its immediate surrounds for nuisances caused by vermin, birds, flies, mud, dust and odours. The licensee shall maintain a record of all nuisance inspections.
- 6.6 Bioaerosol Monitoring
 - 6.6.1 Prior to the commencement of waste acceptance the licensee shall submit to the Agency the results of a baseline bioaerosol monitoring study (to include in particular, spores of *Aspergillus fumigatus* and Actinomycetes) carried at different locations at the proposed site and outside of the site boundary, to include sampling location(s) in the vicinity of the nearest receptor sites (dwelling houses).
 - 6.6.2 The licensee shall carry out the bioaerosol monitoring in accordance with Schedule C
- 6.7 Monitoring Locations
 - 6.7.1 Prior to the acceptance of waste at the facility, the licensee shall submit to the Agency an appropriately scaled drawing(s) showing all the monitoring locations that are stipulated in this licence including any noise sensitive locations and private wells to be monitored. The drawing shall include the eight-digit national grid reference of each monitoring point.
- 6.8 Meteorological Monitoring
 - 6.8.1 The licensee shall provide suitable infrastructure at the facility for the monitoring of wind speed, wind direction and rainfall on a daily basis.
- 6.9 Compost Quality
 - 6.9.1 Compost quality monitoring shall be undertaken as set out in Schedule F: Standards for Compost Quality
 - 6.9.2 Any compost not meeting any standard as per Schedule F may be reused in the process or handled as a waste and details recorded as per Waste Records condition.
- 6.10 The licensee shall carry out such sampling, analyses, measurements, examinations, maintenance and calibrations as set out below and as in accordance with Schedule C of this licence:
 - 6.10.1 Analysis shall be undertaken by competent staff in accordance with documented operating procedures.

- 6.10.2 Such procedures shall be assessed for their suitability for the test matrix and performance characteristics determined.
- 6.10.3 Such procedures shall be subject to a programme of Analytical Quality Control using control standards with evaluation of test responses.
- 6.10.4 Where analysis is sub-contracted it shall be to a competent laboratory.
- 6.11 All automatic monitors and samplers shall be functioning at all times (except during maintenance and calibration) when the activity is being carried on unless alternative sampling or monitoring has been agreed in writing by the Agency for a limited period. In the event of the malfunction of any continuous monitor, the licensee shall contact the Agency as soon as practicable, and alternative sampling and monitoring facilities shall be put in place. Agreement for the use of alternative equipment, other than in emergency situations, shall be obtained from the Agency.
- 6.12 Monitoring and analysis equipment shall be operated and maintained as necessary so that monitoring accurately reflects the emission or discharge.
- 6.13 All treatment/abatement and emission control equipment shall be calibrated and maintained, in accordance with the instructions issued by the manufacturer/supplier or installer.
- 6.14 The frequency, methods and scope of monitoring, sampling and analyses, as set out in this licence, may be amended with the agreement of the Agency following evaluation of test results.
- 6.15 The integrity and water tightness of all underground pipes and tanks and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee. This testing shall be carried out by the licensee at least once every three years thereafter and reported to the Agency on each occasion. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.
- 6.16 Process Effluent
 - 6.16.1 The drainage system, bunds, silt traps and oil separators shall be inspected weekly, desludged as necessary and properly maintained at all times. All sludge and drainage from these operations shall be collected for safe disposal.

Reason: To provide for the protection of the environment by way of treatment and monitoring of emission.

Condition 7. Resource Use and Energy Efficiency

- 7.1 The licensee shall carry out an audit of the energy efficiency of the site within one year of the date of grant of this licence. The audit shall be carried out in accordance with the guidance published by the Agency; "Guidance Note on Energy Efficiency Auditing". The energy efficiency audit shall be repeated at intervals as required by the Agency.
- 7.2 The audit shall identify all opportunities for energy use reduction and efficiency and the recommendations of the audit will be incorporated into the Schedule of Environmental Objectives and Targets under Condition 2 above.

- 7.3 The licensee shall identify opportunities for reduction in the quantity of water used on site including recycling and reuse initiatives, wherever possible. Reductions in water usage shall be incorporated into Schedule of Environmental Objectives and Targets.
- 7.4 The licensee shall undertake an assessment of the efficiency of use of raw materials in all processes, having particular regard to the reduction in waste generated. The assessment should take account of best international practice for this type of activity. Where improvements are identified, these shall be incorporated into the Schedule of Environmental Objectives and Targets.

Reason: To provide for the efficient use of resources and energy in all site operations.

Condition 8. Materials Handling

- 8.1 Waste Acceptance and Characterisation Procedures
- 8.1.1 Waste Acceptance Procedures shall be carried out in accordance with Attachment H2 of the licence application.
- 8.1.2 Waste arriving at the facility shall be inspected at the point of entry to the facility and subject to this inspection, weighed, documented and directed to the green waste compost area. Each load of waste arriving at the green waste compost facility shall be inspected upon tipping within this facility. Only after such inspections shall the waste be processed for recovery.
- 8.1.3 The licensee shall ensure that incoming waste (and intermediate compost) is stored in a manner to prevent nuisance from odour, dust vermin birds etc.
- 8.1.4 Any waste deemed unsuitable for processing at the facility and/or in contravention of this licence shall be immediately separated and removed from the facility at the earliest possible time. Temporary storage of such wastes shall be in a designated Waste Quarantine Area. Waste shall be stored under appropriate conditions in the quarantine area to avoid putrefaction, odour generation, the attraction of vermin and any other nuisance or objectionable condition.
- 8.1.5 Waste shall be accepted at the facility from known customers or new customers subject to initial waste profiling and waste characterisation off-site. The written records of this off-site waste profiling and characterisation shall be retained by the licensee for all active customers and for a two year period following termination of licensee/customer agreements.
- 8.1.6 Waste sent off-site for recovery or disposal shall be transported only by an authorised waste contractor. The waste shall be transported only from the site of the activity to the site of recovery/disposal in a manner which will not adversely affect the environment and in accordance with the appropriate National and European legislation and protocols.
- 8.1.7 Waste shall be stored in designated areas, protected as may be appropriate, against spillage and leachate run-off. The waste is to be clearly labelled and appropriately segregated.
- 8.2 Compost
- 8.2.1 In order not to be considered a waste, compost produced by the facility shall, unless otherwise agreed by the Agency, comply with the quality standards established in *Schedule F: Standards for Compost Quality*, of this licence.

Analysis of the compost shall be in accordance with the requirements of that Schedule.

8.2.2 Compost not meeting the above standard will be regarded as waste and records shall be kept of such waste.

8.2.3 No waste shall be deposited outside the biodegradable waste composting area without the prior permission of the Agency.

Reason: To provide for the appropriate handling of materials and the protection of the environment.

Condition 9. Accident Prevention and Emergency Response

9.1. Emergencies

9.1.1. In the event of a complete breakdown of equipment or any other occurrence which results in the closure of the waste reception building, any waste arriving at or already collected at the facility shall be transferred directly to appropriate landfill sites or any other appropriate facility until such time as the waste reception building is returned to a fully operational status. Such a breakdown event will be treated as an emergency and rectified as soon as possible.

9.1.2. All significant spillages occurring at the facility shall be treated as an emergency and immediately cleaned up and dealt with so as to alleviate their effects.

9.1.3. No waste shall be burnt within the boundaries of the facility. A fire at the facility shall be treated as an emergency and immediate action shall be taken to extinguish it and notify the appropriate authorities.

9.1.4. In the event that monitoring of local wells indicates that the facility is having a significant adverse effect on the quantity and/or quality of the water supply this shall be treated as an emergency and the licensee shall provide an alternative supply of water to those affected.

9.2 Prior to the acceptance of waste at the facility the licensee shall ensure that a documented Accident Prevention Policy is in place which will address the hazards on-site, particularly in relation to the prevention of accidents with a possible impact on the environment. This procedure shall be reviewed annually and updated as necessary.

9.3 Prior to the acceptance of waste at the facility the licensee shall ensure that a documented Emergency Response Procedure is in place, which shall address any emergency situation which may originate on-site. This Procedure shall include provision for minimising the effects of any emergency on the environment. This procedure shall be reviewed annually and updated as necessary.

9.4 In the event of an incident the licensee shall immediately:-

- i. isolate the source of any such emission;
- ii. carry out an immediate investigation to identify the nature, source and cause of the incident and any emission arising therefrom;
- iii. evaluate the environmental pollution, if any, caused by the incident;

- iv. identify and execute measures to minimise the emissions/malfunction and the effects thereof;
 - v. identify the date, time and place of the incident.
- 9.5 Provide a proposal to the Agency for its agreement within one month of the incident occurring or as otherwise agreed with the Agency to:-
- a) identify and put in place measures to avoid reoccurrence of the incident; and
 - b) identify and put in place any other appropriate remedial action.

Reason: To provide for the protection of the environment.

Condition 10. Decommissioning & Restoration and Aftercare

- 10.1 Following termination, or planned cessation for a period greater than six months, of use or involvement of all or part of the site in the licensed activity, the licensee shall, to the satisfaction of the Agency, decommission, render safe or remove for disposal/recovery, any soil, subsoils, buildings, plant or equipment, or any waste, materials or substances or other matter contained therein or thereon, that may result in environmental pollution.

Reason: To make provision for the proper closure of the activity ensuring protection of the environment.

Condition 11. Notifications, Records and Reports

- 11.1 **Waste Recovery Reports**
- The licensee shall as part of the AER submit a report on the contribution by this facility to the achievement of the recovery targets and strategy stated in national and European Union waste policies.
- 11.2 The following records shall be maintained by the licensee:-
- a) all training undertaken by facility staff;
 - b) results from all integrity tests of bunds and other structures and any maintenance or remedial work arising from them;
 - c) details of all nuisance inspections; and
 - d) the names and qualifications of all persons who carry out all sampling and monitoring as required by this licence and who carry out the interpretation of the results of such sampling and monitoring.
- 11.3 A record of all inspections of incoming waste loads shall be maintained.

- 11.4 A record shall be kept at the facility of the programme for the control and eradication of vermin and fly infestations at the facility. These records shall include as a minimum the following:-
- a) the date and time during which spraying of insecticide is carried out;
 - b) contractor details;
 - c) contractor logs and site inspection reports;
 - d) details of the rodenticide(s) and insecticide(s) used;
 - e) operator training details;
 - f) details of any infestations;
 - g) mode, frequency, location and quantity of application; and,
 - h) measures to contain sprays within the facility boundary.
- 11.5 A record shall be kept of each consignment of trade effluent, leachate and/or contaminated storm water removed from the facility. The record shall include the following:-
- a) the name of the carrier;
 - b) the date and time of removal of trade effluent, leachate and/or contaminated storm water from the facility;
 - c) the volume of trade effluent, leachate and/or contaminated storm water, in cubic metres, removed from the facility on each occasion;
 - d) the name and address of the Waste Water Treatment Plant to which the trade effluent, leachate and/or contaminated storm water was transported; and
 - e) any incidents or spillages of trade effluent, leachate and/or contaminated storm water during its removal or transportation.
- 11.6 The licensee shall notify the Agency by both telephone and either facsimile or electronic mail, if available, to the Agency's Headquarters in Wexford, or to such other Agency office as may be specified by the Agency, as soon as practicable after the occurrence of any of the following:
- 11.6.1 Any release of environmental significance to atmosphere from any potential emission point including bypasses.
 - 11.6.2 Any emission which does not comply with the requirements of this licence.
 - 11.6.3 Any malfunction or breakdown of key control equipment or monitoring equipment set out in *Schedule C: Control & Monitoring* which is likely to lead to loss of control of the abatement system.
 - 11.6.4 Any incident with the potential for environmental contamination of surface water or groundwater, or posing an environmental threat to air or land, or requiring an emergency response by the Local Authority.
- The licensee shall include as part of the notification, date and time of the incident, summary details of the occurrence, and where available, the steps taken to minimise any emissions.
- 11.7 In the case of any incident which relates to discharges to water, the licensee shall notify the Local Authority and the Eastern Regional Fisheries Board as soon as practicable after such an incident.
- 11.8 The licensee shall make a record of any incident. This record shall include details of the nature, extent, and impact of, and circumstances giving rise to, the incident. The record shall include all corrective actions taken to; manage the incident, minimise wastes generated and the effect on the environment, and avoid recurrence. The

licensee shall as soon as practicable following incident notification, submit to the Agency the incident record.

- 11.9 The licensee shall record all complaints of an environmental nature related to the operation of the activity. Each such record shall give details of the date and time of the complaint, the name of the complainant and give details of the nature of the complaint. A record shall also be kept of the response made in the case of each complaint.
- 11.10 The licensee shall record all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this licence and all other such monitoring which relates to the environmental performance of the facility.
- 11.11 The licensee shall as a minimum keep the following documents at the site:-
- i. the licences relating to the facility;
 - ii. the current EMS for the facility;
 - iii. the previous year's AER for the facility;
 - iv. records of all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this licence and all other such monitoring which relates to the environmental performance of the facility;
 - v. relevant correspondence with the Agency;
 - vi. an up to date site drawings/plans showing the location of key process and environmental infrastructure, including monitoring locations and emission points and this documentation shall be available to the Agency for inspection at all reasonable times.
- 11.12 The licensee shall submit to the Agency, by the 31st March of each year, an AER covering the previous calendar year. This report, which shall be to the satisfaction of the Agency, shall include as a minimum the information specified in *Schedule E* and shall be prepared in accordance with any relevant guidelines issued by the Agency.
- 11.13 A full record, which shall be open to inspection by authorised persons of the Agency at all times, shall be kept by the licensee on matters relating to the waste management operations and practices at this site. This record shall be maintained on a monthly basis and shall as a minimum contain details of the following:
- i. The tonnages and EWC Code for the waste materials imported and/or sent off-site for disposal/recovery.
 - ii. The names of the agent and carrier of the waste, and their waste collection permit details, if required (to include issuing authority and vehicle registration number).
 - iii. Details of the ultimate disposal/recovery destination facility for the waste and its appropriateness to accept the consigned waste stream, to include its permit/licence details and issuing authority, if required.
 - iv. Written confirmation of the acceptance and disposal/recovery of any hazardous waste consignments sent off-site.
 - v. Details of any rejected consignments.
 - vi. Details of any approved waste mixing.
 - vii. The results of any waste analyses required under *Schedule F*.
 - viii. The tonnages and EWC Code for the waste materials recovered/disposed on-site.

Reason: To provide for the collection and reporting of adequate information on the activity.

Condition 12. Financial Charges and Provisions

12.1 Agency Charges

12.1.1 The licensee shall pay to the Agency an annual contribution of €6,240.00 or such sum as the Agency from time to time determines, having regard to variations in the extent of reporting, auditing, inspection, sampling and analysis or other functions carried out by the Agency, towards the cost of monitoring the activity as the Agency considers necessary for the performance of its functions under the Waste Management Acts 1996 to 2003. The first payment shall be a pro-rata amount for the period from the date of this licence to the 31st day of December, and shall be paid to the Agency within one month from the date of the licence. In subsequent years the licensee shall pay to the Agency such revised annual contribution as the Agency shall from time to time consider necessary to enable performance by the Agency of its relevant functions under the Waste Management Acts 1996 to 2003, and all such payments shall be made within one month of the date upon which demanded by the Agency.

12.1.2 In the event that the frequency or extent of monitoring or other functions carried out by the Agency needs to be increased the licensee shall contribute such sums as determined by the Agency to defraying its costs in regard to items not covered by the said annual contribution.

12.2 Environmental Liabilities

12.2.1 The licensee shall as part of the AER provide an annual statement as to the measures taken or adopted at the site in relation to the prevention of environmental damage, and the measures in place in relation to the underwriting of costs for remedial actions following anticipated events (including closure) or accidents/incidents, as may be associated with the carrying on of the activity.

Reason: To provide for adequate financing for monitoring and financial provisions for measures to protect the environment.

SCHEDULE A: Limitations

A.1 Waste Acceptance

Table A.1 Waste Categories and Quantities

WASTE TYPES ^{Note 1}	Non-hazardous biodegradables.
	Wood wastes generated by the KTS tree surgery business, garden and park waste produced during improvement and maintenance works by landscape gardeners, grass and shrub trimmings produced by individual householders and timber and wood waste (non biocide treated) recovered during construction and demolition works.
MAXIMUM (TONNES PER ANNUM)	40,000

Note 1: Any proposals to accept other compatible waste streams must be agreed in advance with the Agency and the total amount of waste must be within that specified.

Schedule B: Emission Limits

Table B.1 Emissions to Air

Dust Deposition Limits: (Measured at the monitoring points indicated in Figure 7.1 of the application).

Level (mg/m ² /day) ^{Note 1}
350

Note 1: 30 day composite sample with the results expressed as mg/m²/day.

Table B.2 Noise Emissions: (Measured at the monitoring points indicated in Figure 7.1 of the application).

Day dB(A) L _{Aeq} (30 minutes)	Night dB(A) L _{Aeq} (30 minutes)
55 ^{Note 1}	45 ^{Note 1}

Note 1: There shall be no clearly audible tonal component or impulsive component in the noise emission from the activity at any noise sensitive location.

Schedule C: Control & Monitoring

TABLE C.1.1 CONTROL OF EMISSIONS TO AIR

Description of Treatment: Windrows

Control Parameter	Monitoring	Key Equipment
Aeration	Continuous	Oxygen probe
Temperature control of compost	Continuous	Temperature probe

C.2.1 SURFACE WATER MONITORING

Emission Point Reference No: Figure 7.1 of the application

Table C.2.1 Surface water Monitoring Frequency and Techniques

Parameter	Monitoring Frequency	Analysis Method/Technique
Freeboard	Daily	Visual
Appearance	Daily	Visual
pH	Bi-annually	Electrometry
Biological Oxygen Demand	Bi-annually	Standard Methods ^{Note 1}
Suspended Solids	Bi-annually	Standard Methods ^{Note 1}
Faecal Coliforms Total Coliforms	Bi-annually	Standard method
Ammoniacal nitrogen	Bi-annually	Standard Methods ^{Note 1}
Electrical conductivity	Bi-annually	Electrometry

Note 1: "Standards Methods for the Examination of Water and Wastewater", (prepared and published jointly by A.P.H.A., A.W.W.A & W.E.F) 20th Ed., American Public Health Association, 1015 Fifteenth Street, Washington DC 20005, USA.

C.2.2 MONITORING OF EMISSIONS TO GROUNDWATER WATER

Emission Point Reference No.: PW1 and other points if requested by the Agency

Parameter	Monitoring Frequency	Analysis Method/Technique
pH	Annually	pH electrode/meter
Ammoniacal Nitrogen	Annually	Standard Method
Conductivity	Annually	Standard Method
Chloride	Annually	Standard Method
Heavy metals	Annually	Standard Method
Faecal Coliforms Total Coliforms	Annually	Standard method

TABLE C.2.3 NOISE MONITORING

Noise Monitoring Frequency and Technique

Parameter	Monitoring Frequency ^{Note 2}	Analysis Method/Technique
L(A) _{EQ} [30 minutes]	Quarterly	Standard ^{Note 1}
L(A) ₁₀ [30 minutes]	Quarterly	Standard ^{Note 1}
L(A) ₉₀ [30 minutes]	Quarterly	Standard ^{Note 1}
Frequency Analysis(1/3 Octave band analysis)	Quarterly	Standard ^{Note 1}

Note 1: "International Standards Organisation. ISO 1996. Acoustics - description and Measurement of Environmental noise. Parts 1, 2 and 3."

Note 2: Quarterly during the first year of operation reverting to annually with the agreement of the Agency.

TABLE C.2.4 AMBIENT MONITORING

Air Monitoring

Location:

To be agreed in advance with the Agency

Parameter ^{Note 1}	Monitoring Frequency	Analysis Method/Technique
Dust (mg/m ² /day)	Quarterly ^{Note 1}	Standard Method ^{Note 2}
Odour	Bi-annually ^{Note 3}	See ^{Note 3}
Bacteria	Annually	Grab sample ^{Note 4}
Aspergillus fumigatus	Annually	Grab sample ^{Note 4}

Note 1: Twice during the period May to September, or as otherwise specified in writing by the Agency.

Note 2: Standard method VDI2119 (Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method) German Engineering Institute).

Note 3: Odour measurements shall be by olfactometric measurement and analysis for hydrogen sulphide, ammonia, and others as maybe specified by the Agency

Note 4: Enumeration of colonies to be carried out as described in 'Standardised Protocol for the Sampling and Enumeration of Airborne Micro-organisms at composting Facilities' the Composting Association 1999.

TABLE C.2.5 MONITORING OF PROCESSES

C.2.5.1 : Monitoring of Composting process

Parameter	Monitoring Frequency	Monitoring equipment/method
<ul style="list-style-type: none"> Composting piles 		
<i>Temperature vs. time</i>	Continuous	Temperature probe/recorder
Oxygen Content	Daily	Oxygen Probe with recorder
<ul style="list-style-type: none"> Compost maturation (curing) piles 		
<i>Temperature</i>	Continuous	Temperature probe
<i>Moisture</i>	Daily	Subjective by operator.

Schedule D: Specified Engineering Works

Specified Engineering Works

Development of the facility including installation of waste handling, processing, recovery infrastructure and installation of increased waste processing capacity.

Installation of drainage network including silt traps and oil interceptors etc..

Installation of Compost Area.

Any other works notified in writing by the Agency.

Schedule E: Reporting

Completed reports shall be submitted to:

The Environmental Protection Agency
Office of Environmental Enforcement
Regional Inspectorate
P.O. Box 3000, Johnstown Castle Estate
Co. Wexford

Recurring Reports

Report	Reporting Frequency ^{Note 1}	Report Submission Date
Annual Environment Report (AER)	Annually	By 31 st March of each year.
Record of incidents	As they occur	Within five days of the incident.
Specified Engineering Works reports	As they arise	Prior to the works commencing.
Monitoring of Surface Water Quality	Annually	As part of the AER
Dust Monitoring	Annually	As part of the AER
Noise Monitoring	Annually	As part of the AER
Any other monitoring	As they occur	Within ten days of obtaining results.

Note 1: Unless altered at the request of the Agency.

Schedule F: Standards for Compost Quality

The following criteria are deemed a quality standard for the use of compost as a soil improver and should not be deemed as criteria for fertiliser. In addition N, P, K, NH₄-N, NO₃-N, pH and dry matter content should also be measured.

Compost shall be deemed unsatisfactory if more than 10% of samples fail the criteria below. No sample shall exceed 1.2 times the quality limit values set.

1. Maturity

Compost shall be deemed to be mature if it meets two of the following requirements:

- C/N ratio ≤ 25
- oxygen uptake rate ≤ 150 mg O₂/kg volatile solids per hour; and
- germination of cress (*Lepidium sativum*) seeds and of radish (*Raphanus sativus*) seeds in compost must be greater than 90 percent of the germination rate of the control sample, and the growth rate of plants grown in a mixture of compost and soil must not differ more than 50 percent in comparison with the control sample.
- Elimination of the following test organisms (used to evaluate composting system efficiency in removing plant pathogens and weed seeds during the composting process): *Plasmodiophora brassicae*, tobacco-mosaic-virus (TMV) and tomato seeds.

Guidance on test may be obtained from the German document LAGA M10 'Quality Criteria and Application Recommendations for Compost'.

2. Foreign Matter

Compost must not contain any sharp foreign matter measuring over a 2 mm dimension that may cause damage or injury to humans, animals and plants during or resulting from its intended use.

Foreign matter content as a percentage of oven-dried mass.	≤1.5%
Foreign matter, maximum dimensions, in mm	25 mm

3. Trace Elements

Maximum Trace Element Concentration Limits for Compost^{Note 2}

Trace Elements	(mg/kg, dry mass)
Arsenic (As) ^{Note 1}	15
Cadmium (Cd)	1.5
Chromium (Cr)	100
Copper (Cu)	100
Mercury (Hg)	1
Molybdenum (Mo) ^{Note 1}	5
Nickel (Ni)	50
Lead (Pb)	150
Selenium (Se) ^{Note 1}	2
Zinc (Zn)	350

Note 1: Monitoring of these parameters required if waste from an industrial source.

Note 2: The above alone should not be taken as an indication of suitability for addition to soil as the cumulative metal additions to soil should be first calculated.

4. Pathogens

Pathogenic organism content must not exceed the following limits:

- *Escherichia coli* \leq 1,000 CFU/g
- *Salmonella* species absent in 25 g sample.

5. Monitoring

The licensee shall submit to the Agency for its agreement, prior to commencement of compost operations, details of methods of analyses, methods of sampling and sample numbers.

The analyses shall be carried out:

- (a) every six months for plants producing more than 500 and up to 1 000 tonnes of treated biowaste per year;
- (b) at intervals of at least every 1 000 tonnes of treated biowaste produced or every 3 months, whichever comes first, for plants producing more than 1 000 and up to 10 000 tonnes of treated biowaste per year;
- (c) every month for plants producing more than 10 000 tonnes of treated biowaste per year.

Schedule G: Annual Environmental Report

Annual Environmental Report Content ^{Note 1}

Emissions from the facility.
Waste management record.
Resource consumption summary.
Complaints summary.
Schedule of Environmental Objectives and Targets
Environmental management programme – report for previous year
Environmental management programme – proposal for current year
Noise monitoring report summary
Ambient monitoring summary
Tank and pipeline testing and inspection report
Reported incidents summary
Energy efficiency audit report summary
Report on the assessment of the efficiency of use of raw materials in processes and the reduction in waste generated.
Development / Infrastructural works summary (completed in previous year or prepared for current year).
Reports on management and staffing structure of the installation/facility, and a programme for public information
Waste activities carried out at the facility.
Quantity and Composition of waste recovered, received and disposed of during the reporting period and each previous year (relevant EWC codes to be used).
Waste recovery report.
Full title and a written summary of any procedures developed by the licensee in the year which relates to the facility operation.
Review of Nuisance Controls.
Statement of measures in relation to prevention of environmental damage and remedial actions (Environmental Liabilities)
Any other items specified by the Agency.

Note 1 Note 1: Content may be revised subject to the agreement of the Agency

Signed on behalf of the said Agency
on the day of xx, 2005

Authorised Person

