

11.0 Glossary and Abbreviations

11.1 Glossary

Activity

An industrial, agricultural or commercial activity or an activity of any other nature whatever (including the keeping of a substance or an animal).

Activity (Scheduled)

In regulatory terms an activity listed in Schedule 1 of the *Protection of the Environment Operations Act 1997* may be licensed by the Department of Environment and Climate Change.

Aerobic

In the presence of oxygen.

Anaerobic

In the absence of oxygen.

Anniversary Date

The anniversary date is the anniversary each year of the date of issue of an EPA licence. In the case of a licence continued in force by the *Protection of the Environment Operations Act 1997*, the date of issue of the Licence is the first anniversary of the date of issue or last renewal of the Licence following the commencement of the Act.

Assessment Background Level

The Assessment Background Level (ABL) is the single figure background level for noise, representing each assessment period (day, evening and night) for each day. It is determined by calculating the 10th percentile (lowest 10th percent) background level (L_{A90}) for noise in each period.

Bio-remediation

Remediation of contaminated land using biological methods.

Biocell

A biocell is a walled bunker that is used in the SAWT-BIOWISE facility to contain and assist the process of composting organic material. A biocell will have a forced aeration ventilation system. Each biocell will be maintained at specified temperatures by variation of airflow and moisture contents by the addition of water, to optimise the conditions for composting.

Biofilter

A system for filtering air through a medium, usually organic material, filled with microorganisms.

Biosolids

The organic solid or semi-solid residue that results from sewage treatment processes. It is the settled product of microbial digestion in the wastewater purification process.

Biosolids Guidelines

The document published by the DECC titled Environmental Guidelines:

- Use and Disposal of Biosolids Products (1997) and Addendum to Environmental Guidelines: Use; and
- Disposal of Biosolids (2000a).

BioWise

SITA's composting facility in Kwinana near Perth, Western Australia.

CO₂ –e

Equivalent to carbon dioxide. Used as a standard measurement of the level of effect of various gases on the atmosphere, particularly greenhouse gases.

Commercial and Industrial Waste

Wastes generated by businesses and industries and institutions. These include shopping centres, restaurants, offices, schools, hospitals and government offices but exclude any building and demolition waste and municipal waste.

Composite Sample

A sample consisting of a number of individual sub-samples collected at regular intervals and each having an equivalent volume. These sub-samples are combined to form a sample representative of the total time interval from which the sub-samples were collected.

Compost

Stable, pasteurised organic material resulting from the controlled microbiological transformation of organic material. Material produced from the controlled biological decomposition of organic wastes. Compost is sanitised and stabilised to a degree that is beneficial to plant growth when used as a soil supplement.

Composting

The process of aerobic conversion of organics by micro-organisms, under controlled conditions yielding cured soil conditioners, compost or humus.

Composting Guidelines

The document published in 2004 by the DECC titled Environmental Guidelines: Composting and Related Organics Processing Facilities.

Compostable Organic Material

A generic term for all organic materials appropriate for collection and use as raw materials or feedstock for composting or in related biological treatment systems, such as vermiculture. The term is defined by its component materials; residual food organics, garden organics, wood and timber, biosolids, agricultural organics and other organics. The term and definition is compatible with the national materials classification system defined in the Australian Waste Database (see <http://www.civeng.unsw.edu.au/awdb/awdb2.htm>). It clearly distinguishes between organic materials that can be treated using biological systems versus organic compounds, such as plastics, which cannot.

Carbon to Nitrogen (C:N) Ratio

The ratio, by mass, of carbon atoms to nitrogen atoms present in the organics.

DEC

NSW Department of Environment and Conservation, now Department of Environment and Climate Change NSW.

DECC

Department of Environment and Climate Change NSW, formerly DEC, formerly EPA. This document refers only to DECC.

Elizabeth Drive Site

The entire section of land owned by SITA encompassing the existing Elizabeth Drive Landfill and proposed SAWT-BIOWISE facility.

EPA

NSW Environment Protection Authority is a statutory body with specific powers under environment protection legislation. In September 2003, the EPA became part of the Department of Environment and Conservation.

Facility

Premises at which a scheduled activity under schedule 1 to the *Protection of the Environment Operations Act 1997*, takes place.

Fine Mulch

Any pasteurised or composted organic product suitable for placing on soil surfaces. Fine mulch has more than 20%, but less than 70% by mass of its particles above 16 mm. This material does not include polymers which do not biodegrade such as plastics, rubbers and coatings.

Flow Weighted Composite Sample

A sample from a flow, whose composites are sized in proportion to the flow at the time of each composite's collection.

Grab Sample

A single sample that is taken at a particular location point, at a single time.

Greenfield Site

A new or an undeveloped site that can be built upon without demolition or needing refurbishment of any existing facility at that particular location.

Green Waste

Organic waste resulting from the trimming, pruning, lopping, cutting and felling of any form of vegetation, such as grass, trees and shrubs.

Harm

Harm to the environment includes any direct or indirect alteration of the environment that has the effect of degrading the environment and, includes any act or omission that results in pollution.

Hazardous Waste

Has the same meaning as in Part 3 of Schedule 1 of the *Protection of the Environment Operations Act 1997*.

Industrial Waste

Has the same meaning as in Part 3 of Schedule 1 of the *Protection of the Environment Operations Act 1997*.

Inert Waste

Has the same meaning as in Part 3 of Schedule 1 of the *Protection of the Environment Operations Act 1997*.

Integrated Development

Under section 91 of the *Environmental Planning and Assessment Act 1979*, a proposed development is an *integrated development* if there is the need to obtain approval(s) from other regulatory bodies apart from the consent authority. An example is the Environment Protection Authority, which has jurisdiction for scheduled activities under the *Protection of the Environment Operations Act 1997* for a 'composting or related organics processing facility'. The proponent requires an environmental protection licence, in addition to any development approval (that may be required) to conduct a scheduled activity.

L_{A1}

It is the noise level that is exceeded for 1% of the sample period. During the sample period the noise level is below the L_{A1} level for 99% of the time.

L_{A10}

It is the noise level that is exceeded for 10% of the sample period. During the sample period the noise level is below the L_{A10} level for 90% of the time.

L_{Aeq}

The equivalent continuous sound level (L_{Aeq}) is the energy average of the varying noise over the sample period and is equivalent to the level of a constant noise, which contains the same energy as the varying noise environment.

L_{A90}

This is commonly referred to as the background noise level. It is the noise level that is exceeded for 90% of the sample period. During the sample period the noise level is below the L_{A90} level for 10% of the time.

Leachate

Liquid released by, or water that has percolated through, organics, and which contains dissolved and/or suspended liquids and/or solids and/or gases.

Licensee

The Licence holder described at the front of an EPA licence.

Material Harm

Has the same meaning as in section 147 *Protection of the Environment Operations Act 1997*.

- 1) For the purposes of the POEO Act:
 - (a) harm to the environment is material if:
 - i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or
 - ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amount as is prescribed by the regulations), and
 - (b) loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.
- 2) For the purposes of the Act, it does not matter that harm to the environment is caused only in the premises where the pollution incident occurs.

Mixed Solid Waste

For the purposes of this document mixed solid waste includes Municipal Solid Waste, Commercial and Industrial waste and green waste.

Municipal Solid Waste (MSW)

Being waste consisting of:

- a) Household domestic waste that is set aside for kerb side collection or delivered by the householder directly to a waste facility; or
- b) Other types of domestic waste, such as clean-up and residential garden waste; or
- c) Local council generated waste, such as waste from street sweeping, litter bins and parks.

Mobile Plant

Has the same meaning as in Part 3 of Schedule 1 of the *Protection of the Environment Operations Act 1997*.

Mulch

Any pasteurised organic product that is suitable for placing on soil surfaces. Mulch has at least 70% by mass of its particles greater than 16 mm. This material does not include polymers which do not biodegrade such as plastics, rubbers and coatings.

Mulching

The size reduction of organics using one or more of the processes such as cutting, milling, shredding and grinding.

NSW Department of Environment and Conservation

See DECC

NSW Department of Natural Resources

Government Department with responsibility for water management, soil and vegetation management, and coastal and floodplain management.

NSW Department of Planning

The prime Government department for planning in NSW. Formerly Planning NSW, the NSW Department of Urban Affairs and Planning, and the NSW Department of Infrastructure, Planning and Natural Resources.

NSW Environment Protection Authority

See EPA.

Offensive Odour

Means an odour:

- a. That, by reason of its strength, nature, duration, character or quality, or the time at which it is emitted, or any other circumstances:
 - i) is harmful to (or is likely to be harmful to) a person who is outside the premises from which it is emitted, or
 - ii) interferes unreasonably with (or is likely to interfere unreasonably with) the comfort or repose of a person who is outside the premises from which it is emitted, or
- b. That is of a strength, nature, duration, character or quality prescribed by the regulations or that is emitted at a time, or in other circumstances, prescribed by the regulations.

Organics

Means natural organic materials of waste and non waste origin including:

- a) Putrescible organics such as meat, fish, poultry, fruit, vegetables and their cooked or processed products; biosolids and manures; and animal materials;
- b) Non putrescible organics such as timber; garden trimmings; agricultural, forestry and crop materials; and natural fibrous organic and vegetative materials.

but excludes;

- c) Human made organic chemicals such as solvents; industrial, agricultural, mining, commercial, household chemicals; cleansing agents; and personal care products; and
- d) Naturally occurring organic chemicals which have been refined and/or concentrated by human activity such as oil; petrol; diesel; and coal tar.

Pathogen

A living organism that can be harmful to humans, animals, plants or other living organisms.

Pasteurisation

The process involving heat and resulting in reduction in the levels of human, plant and animal pathogens and in the inactivation of weed seeds and propagable shoots.

Percentile

The percentage in relation to a number of samples taken that must meet a criterion. Within DECC Licences, percentile is usually the number of samples that must meet the concentration limit specified in the DECC Licence for that pollutant over a specified period of time. In a DECC licence, the specified period of time is the Reporting Period, unless otherwise stated in the Licence.

Premises

The area occupied by the 'site' referred to under a Licence issued under the *Protection of the Environment Operations Act 1997*. The Licence applies to the activity on those premises. Premises include buildings or structures, land or places, mobile plant, vehicles or vessels.

Putrescible Waste

- a) Food waste, or
- b) Waste consisting of animal matter (including dead animals or animal parts), or
(b1) grease trap waste, or
- c) Biosolids categorised as Stabilisation Grade C in accordance with the criteria set out in the Biosolids Guidelines.

Ramsar Site

Wetlands of International importance, as declared by the Ramsar Convention in 1972.

Rating Background Level

The Rating Background Level for noise in each period is the medium value of the Assessment Background Level (ABL) noise values for the period over all of the days measured. There is therefore a noise RBL value for each period, day, evening and night.

Recycling

The processing of waste materials into a similar non-waste product. Related organic processing includes the conversion of organics into soil conditioners, compost, humus or other products such as mulching and fermentation. Such processes are carried out under controlled conditions.

Reporting Period

For the purpose of a DECC Licence, the reporting period means the period of 12 months after the issue of the Licence, and each subsequent period of 12 months. In the case of an EPA licence continued in force by the *Protection of the Environment Operations Act 1997*, the date of issue of the Licence is the first anniversary of the date of issue or last renewal of the Licence following the commencement of the Act.

Reprocessing of Waste

Has the same meaning as in Part 3 of Schedule 1 of the *Protection of the Environment Operations Act 1997*.

Resource NSW

A Government agency formed by the Waste Avoidance and Resource Recovery Act 2001 and now part of the Department of Environment and Climate Change NSW. Main functions are to develop, coordinate and evaluate the implementation of strategies and programs for the state-wide achievement of government policy objectives in respect of a number of waste streams.

Residual Waste

The fraction of the total waste stream remaining after re-use, recycling or recovery of materials, within economic and technical bounds.

Resource Recovery

The extraction and use of resources from waste. Resources recovered can be used in the manufacture of new products. Recovery of value includes the production of energy by using components of waste as a fuel, production of compost using organics as a medium, and reclamation of land.

Run-off

The portion of rain that drains as a surface flow.

SAWT-BIOWISE Site

The section of land at the existing Elizabeth Drive Landfill premises, to which this EA applies.

Scheduled Activity

An activity listed in Schedule 1 of the *Protection of the Environment Operations Act 1997*. See **Activity (Scheduled)**.

Soil Conditioner

Any composted or pasteurised organic material including vermicast, manure and mushroom substrate that is suitable for adding to soils. This term also includes "soil amendment", "soil additive", "soil improver" and similar terms, but excludes polymers, which do not biodegrade such as plastics, rubbers and coatings. Soil conditioners may be either "composted soil conditioners" or "pasteurised soil conditioners".

Solid Waste

Defined in Part 3 of Schedule 1 of the *Protection of the Environment Operations Act 1997*.

Solid Waste Landfill

A site for the disposal of Solid Waste by landfilling, as defined in Environmental Guidelines: Solid Waste Landfills (EPA 1996).

Sound Pressure Level

An air pressure in noise measurement, which is the root mean square air pressure expressed as decibels relative to 10^6 Pa.

Sound Power Level

A power measurement that is an intrinsic (independent of distance) parameter for sources of noise.

Total Coliforms and *Escherichia coli* (E. coli)

Total Coliform bacteria and E. coli are used as a scientific indicator of the quality of drinking water and of the possible presence of disease causing microorganisms. They are measured in Organisms/100ml.

Treatment of Waste

Defined in Part 3 of Schedule 1 of the *Protection of the Environment Operations Act 1997*.

Trommel

Equipment used to separate waste where a cylindrical sieve rotates around a slightly inclined central axis. It is used to screen material by size.

Turbidity

This is a measure of suspended material in water that can cause it to look discoloured or muddy. It is measured in Nephelometric Turbidity Units (NTU).

Utilisation Area

Area shown as an utilisation area on a map submitted with the application for a DECC Licence.

Waste

As defined in the Protection of the Environment Operations Act 1997. Waste includes:

- (a) Any substance (whether solid, liquid or gaseous) that is discharged, emitted or deposited in the environment in such volume, constituency or manner as to cause an alteration in the environment, or
- (b) Any discarded, rejected, unwanted, surplus or abandoned substance, or
- (c) Any otherwise discarded, rejected, unwanted, surplus or abandoned substance intended for sale or for recycling, processing, recovery or purification by a separate operation from that which produced the substance, or
- (d) Any substance prescribed by the regulation to be waste for the purposes of this Act.

A substance is not precluded from being waste for the purposes of the Act merely because it can be processed, re-used or recycled.

Waste Codes

The waste codes are listed in Appendix 5 of the EPA document - *A Guide to Licensing Part B*.

Waste Guidelines

The document titled Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes, issued by the DECC and in force as at 1 July 1999 (DECC 1999a).

Waste Type

A categorisation of waste under the *Protection of the Environment Operations Act 1997* and associated regulations into Group A, Group B, Group C, inert, solid, industrial or hazardous waste. Classification into Waste Type is determined under the procedures stated in the Waste Guidelines.

Windrow Composting

A system of composting involving the aeration of horizontally extended piles formed by a front-end loader or windrow turner. Extended piles are generally 1.5 to 3m in height, and length is limited by the size of the composting pad. Aeration can be achieved by mechanical turning and/or the delivery of air from the base of the windrow.

11.2 Abbreviations

AADT	Annual Average Daily Traffic
ABL	Assessment Background Level
AEP	Annual Exceedance Probability
AHD	Australian Height Datum
AHIMS	Aboriginal Heritage Information Management System
AMG	Australian Map Grid
ARI	Average Reoccurrence Interval
AUSPLUME	a computer-based air dispersion model
AWT	Alternative Waste Technology
BOD	Biochemical oxygen demand
C&D	Construction and Demolition
C&I	Commercial and Industrial
CEMP	Construction Environmental Management Plan
cfu/100ml	Colony Forming Units per 100 ml
C:N	Carbon to Nitrogen
COD	Chemical Oxygen Demand
CoRTN	Calculation of Road Traffic Noise
CRZ	Core Riparian Zone
DA	Development Application
dBA	A-weighted Decibels, also written as dB(A)
DEC	NSW Department of Environment and Conservation
DECC	Department of Environment and Climate Change NSW
DEH	Department of Environment and Heritage
DG	Director-General
DIPNR	NSW Department of Infrastructure Planning and Natural Resources

DLWC	Department of Land and Water Conservation
DoP	Department of Planning
DUAP	Department of Urban Affairs and Planning
EA	Environmental Assessment
EC	EC Sustainable Consultants
ECNM	Environmental Noise Criteria Manual (EPA document)
ECRTN	Environmental Criteria for Road Traffic Noise (EPA document)
EIS	Environmental Impact Statement
EP&A Act	Environmental Planning and Assessment Act (1979)
EPL	Environmental Protection Licence
GHG	Greenhouse Gas
INP	Industrial Noise Policy (EPA document)
KC/1 Kemps Creek 1	Aboriginal Site identification number at Kemps Creek
kg	kilograms
LEMP	Landfill Environmental Management Plan
LEP	Local Environmental Plan
LGA	Local Government Area
m	metres
Maunsell	Maunsell Australia Pty Ltd
ml	millilitre
MRF	Materials Recovery Facility
MSW	Municipal Solid Waste
Mt	Million tonnes
MtCO₂ –e	Million tonnes carbon dioxide equivalent
mtpa	Million tonnes per annum
NEPM	National Environment Protection Measure
NTU	Nephelometric Turbidity Units
°C	degrees of temperature measured in the Celsius scale (centigrade)
OEMP	Operational Environmental Management Plan
ou	Odour units
Pa	Pascal
PCC	Penrith City Council
POEO Act	Protection of the Environment Operations Act 1997
PPE	Personal Protection Equipment
QA	Quality Assurance
RBL	Rating Background Level
RL	Relative Level
RTA	Roads and Transport Authority
S&WMP	Soil and Water Management Plan
SAWT	SITA Advanced Waste Treatment
SAWT-BIOWISE	SITA Advanced Waste Treatment - Biowise

SCA	Sydney Catchment Authority
SEPP	State Environmental Planning Policy
SITA	SITA Environmental Solutions
SPL	Sound Pressure Level
SREP	Sydney Regional Environmental Plan
SWL	Sound Power Level
t	Tonnes
TEOM	Tapered Element Oscillating Microbalance
tpa	Tonnes per annum
TSP	Total suspended particulates
TSS	Total suspended solids
WARR Act	<i>Waste Avoidance and Resource Recovery Act 2001</i>