




A proud history with a bright future 

EMRC Submission

DER Draft Environmental Standards for Composting





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INTRODUCTION

The Eastern Metropolitan Regional Council (EMRC) welcomes the opportunity to comment on the Draft Environmental Standard for Composting released by the Department of Environment Regulation (DER).

EMRC has identified various issues with the draft standard that not only have substantial impact on its own composting operations but also across the industry.

BACKGROUND

The Eastern Metropolitan Regional Council

The Eastern Metropolitan Regional Council (EMRC) was initially established by its member Councils over thirty years ago to provide waste treatment and / or disposal services.

With a core business of the provision of waste disposal services to its member Councils, the EMRC also provides waste services to the commercial sector. EMRC has a reputation for being innovative and has demonstrated leadership in waste management.

EMRC owns and operates the Red Hill Waste Management Facility and the Hazelmere Resource Recovery Park.

Red Hill Waste Management Facility

The Red Hill Waste Management Facility has a total area of 352 hectares and receives around 250-300,000 tonnes of waste per annum. The facility generates 4 MW of electricity from landfill gas and significant quantities of greenwaste are composted to meet AS 4454 certification.

The Red Hill Waste Management Facility is licensed to receive Class I, II and III type wastes. EMRC has operated the only licensed Class IV disposal cell in Western Australia, accepting contaminated waste from various industries in accordance with the DER's Waste Classification Guidelines since 1997.

Greenwaste Processing at Red Hill

The Red Hill greenwaste processing facility includes open windrow composting and mulching of source separated greenwaste and is licensed by the Department of Environment Regulation (DER) under Category 67A to undertake Compost Manufacturing and Soil Blending.



The greenwaste processing area occupies 60,000 square metres (6 hectares) at Red Hill. Approximately 10,000 cubic metres of greenwaste is processed annually into mulch and soil conditioner and sold to various markets such as the recent Gateway WA project. EMRC obtained Australian Standard Certification AS 4454 for mulching and composting activities in October 2009, and maintains its certification through annual external audits.

GENERAL COMMENTS ON DRAFT ENVIRONMENT STANDARDS FOR COMPOSTING

EMRC is in agreement with the overall objective of providing a uniform minimum construction standard and a consistent regulatory regime across the composting industry for new proposals and existing operations. However, there are a few concerns on certain components of the draft standard and EMRC has provided a comment and detailed position on each issue along with possible recommendations. These are outlined in the following sections.

Section 5.0 Infrastructure

Issue 1

The definition for composting hardstand states as “*surfaces where feedstock is received and stored, processed, mixed and composted (including mixing pits for liquid feedstock), and where the final product is stored.*” This is followed by Section 5.1 that states “*the performance standard for composting hardstands must prevent contamination of the underlying land, groundwater and surface waters.*”

Position

EMRC questions why **final product must be stored** on the composting hardstand? The final product poses no environmental risk to groundwater, surface waters or soils as it has undergone full composting processes and reached full maturation. The final product is sold as a compost/mulch to the landscaping industry where it is applied in large volumes on virgin ground (not hardstands) to achieve various beneficial environmental outcomes.


If final product is required to be stored on a composting hardstand this increases the overall total area of a hardstand and creates the following issues:

- Greater catchment area for generation of leachate
- Greater leachate volumes that need to be controlled
- Increased pressure on leachate management operations
- Lack of space to construct larger leachate ponds that can accommodate larger leachate volumes
- Increased construction and operational costs due to larger hardstands and greater sized leachate ponds.

EMRC also questions the requirement for all feedstocks to be stored on the hardstand? Unshredded clean greenwaste poses no environmental risk compared to other feedstocks used in the industry such as piggery waste, liquid wastes. These types of feedstocks obviously have the potential to generate leachate and require appropriate control measures separate to unshredded clean greenwaste.

Recommendation:

- **Remove the requirement for final product to be stored on the hardstand.**

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- **Different feedstocks pose different levels of risk and therefore require different management controls. Remove the requirement for clean greenwaste feedstock to be stored on a hardstand.**

Issue 2

Under the Environmental Standard, leachate has been defined as *“a liquid which has drained from composting materials or products including stormwater which has accessed any potentially contaminated area.”*

Position

As for similar reasons outlined above, EMRC believes that stormwater coming into contact with final product is not considered leachate.

Recommendation: Remove “or products” from leachate definition.

Section 5.1 Composting Hardstand - Liner

Issue 1

The construction standard states that *“the hardstand must be engineered and constructed so as to be capable of accommodating the weight and movement of materials, vehicles and equipment used in the production of compost and required to operate on the hardstand, without distortion, cracking or otherwise compromising the integrity of the liner or altering the drainage standard.”*

Position

EMRC believes that if a clay liner is selected as the preferred method of lining, then the above performance standard is not achievable. A well designed clay lined hardstand should be constructed to accommodate for movement and deformation as it will never retain its original shape and condition.

Recommendation: Make reference that the above performance standard is not relevant to clay lined hardstands only asphalt/concrete.

Issue 2

The design and construction standard must have a protective layer (such as 200mm silty loam or compacted gravel) maintained over the clay liner to protect the liner from damage as a result of day-to-day activities or machinery movements.

Position

Geotechnical earthworks in WA seldom use or have available silty loam products. Clays, sands and gravels are sourced in Western Australia and have better material properties than silty loam. It appears this design standard has been drawn straight from the NSW standard where silty loams would be applicable.

Recommendation: Remove reference to “silty loam”.

Section 5.1 Composting Hardstand – Drainage

Issue 1

The construction standard states *“that the hardstand must have a minimum 2% drainage gradient to ensure free drainage of all leachate to the leachate collection infrastructure.”*

Position

The 2% minimum requires justification. The hardstand construction standards ensure that the hardstand is almost an impermeable surface and therefore a minimum 1% drainage gradient would be sufficient.

Recommendation: Hardstands must have a minimum 1% drainage gradient.

Section 5.2 Leachate collection system

Issue 1

The Performance standard for a leachate collection system states that....*“any surface water or stormwater that comes into contact with feedstock, compost windrows or completed compost/product is collected and directed as leachate”*

Position

EMRC questions why *any surface water that comes into contact with final product is considered leachate?* For the same reasons that were outlined in the section above, the final product poses no environmental risk to groundwater, surface water or soils. The final composted product is sold for broad scale application or used by landscapers or stored at soil yards where it will continually come into contact with stormwater and this is not deemed as leachate.

Recommendation: Stormwater that comes into contact with completed compost/product is not deemed as leachate.



Section 5.3 Leachate storage infrastructure

Issue 1

The sediment trap must be of an appropriate size and design to effectively remove sediment and detritus from the leachate and have a marker to identify when it is 80% full.

Position

EMRC questions what is considered an "appropriate size?"

Recommendation: DER needs to clearly define appropriate size. Consider providing a benchmark that is a percentage relative to the hardstand and/or pond size.

Issue 2

Batter slopes on the sides of ponds must not exceed 1:3 vertical to horizontal to ensure compaction and stability of the pond liner.

Position

The 1:3 batter requirement does not take into account which lining system this refers to. It is not practical to extend a 1:3 batter for all lining types at various depths as different lining systems have different slope stabilities.

Recommendation: Batter requirement should be governed by depth and the type of lining materials used.

Section 5.4 Leachate Storage Capacity

Issue 1

Ponds and tanks storing leachate must have the minimum capacity to store the total of:

- *The volume determined by robust water balance calculations that meet the requirements set out in this section in section 5.4 and*
- *The equivalent volume from a 1 in 20 year storm event (20 year ARI) of 72 hours duration,*

With a freeboard of 500mm freeboard maintained at all times.

Position

This is a significant design requirement and has large implications on financial and operational costs. If EMRC's current greenwaste leachate pond was to be re-designed to these specifications it would be 4 times its current size and the construction cost would likely make the operation non-viable. EMRC cannot simply cease greenwaste processing as it has an obligation to meet its member council's waste management requirements. EMRC is likely to receive increased greenwaste tonnages in the near future as more councils move towards the 3-bin system, an approach which is in alignment with the Waste Authority's strategic waste management plan.

Recommendation: Remove the huge financial burden of this requirement by making only one condition a requirement not both. That is, either operational water balance calculation or a 1 in 20 year storm event calculation. Could also consider making whatever is calculated as the largest capacity under both calculations as the required minimum capacity.

Issue 2

Run-off from the entire leachate collection system, assuming 100% run-off coefficient.

Position

The 100% co-efficient requires justification. Normal run-off from an operational hardstand would be significantly less than 100%. The hardstand design should take into account the chosen surface type and the nature of materials stored on the surface. EMRC agrees with prescribing the permeability requirements of the hardstand as a performance standard, however, it is unreasonable to prescribe the run-off coefficient.

Recommendation: The coefficient for surface run-off should be selected based on engineering computation for the nominated surface type.

Section 6.2 Contaminants in Waste Feed Stock

Issue 1

Contaminated organic waste feedstock must not be accepted at composting facilities to be diluted by other feedstock before or as part of the composting process.

Contaminated organic waste feedstock may only be accepted where there are appropriate processes that actively treat contaminants to approved concentrations and leachability levels.

Position

EMRC receives MGB waste from the City of Bayswater as part of a 3-bin system. The CoB provides a fortnightly city-wide 240 litre MGB garden waste collection service. Contamination levels of around 10% household waste determine how the product is processed and limits its marketability. Contamination generally comprises, but is not limited to plastic bags, glass, bio-bin inserts and plant pots.

Under the proposed standards, the MGB waste stream would not be compliant. The requirements for contaminated feedstock would severely jeopardise this initiative by CoB and EMRC and the Waste Authority's strategic waste management plan.

Recommendation: DER needs to define the nature of contaminants and provide reference to approved concentrations and leachability levels of defined contaminants.

Section 7.0 Products

Issue 1

Composts, soil conditioners and mulches produced from suitably composted materials that meet the requirements of AS 4454:2012 Composts, Soil Conditioners and Mulches (AS4454:2012) are regarded as a product and not as a waste.

Position

The above statement conflicts with previous statements in the standard where final product is required to be stored on a hardstand and final product generates leachate.

If a material is regarded as a product and not a waste then it doesn't need to be stored on a hardstand nor does it generate leachate.

Recommendation: Final product is not a waste if it complies with AS4554:2012. This definition needs to be consistent within the standard and proposed leachate control requirements removed for the final product.

Section 7.2 Pathogen and Contaminant Limits

Issue 1

Table 6 & 7 pathogen and contaminant limits.

Position

Three additional pathogens to the AS 4554:2012 standard have been included in the pathogen suite. These being enteric viruses, Helminth ova and E.coli. EMRC would like to know the justification for including these additional pathogens as it incurs significant laboratory analysis costs and unmanageable turn-around times for batch release. A recent quote from ALS Laboratories stated that the analysis would need to be performed in Victoria and the costs are detailed below:


TEST	PRICE (\$)	TA
E.coli (Colilert)	30.00	2-3 Days
Helminths (Ascaris and Taenia) in soil, sludge and biosolids	410.00	14 Days
Infectious adenoviruses and enteroviruses by integrated cell culture PCR with MPN quantitation including analysis of one dilution	1,300.00	6-8 Weeks

Recommendation: Provide justification to the inclusion of additional pathogen testing to the AS 4554:2012 standard.

Other Issues

Flexibility in Environmental Standard

Many facilities will find it challenging to implement the design standards outlined in the draft standard due to the large capital outlay required. The current structure of the standard is very prescriptive and rigid and seems to be an over regulated document that takes on a "one size fits all" approach. The composting industry is very diverse in nature from different feedstocks being used to different processes being implemented and different end products and markets being sought. The standard needs to allow DER to exercise flexibility in its assessment of works approval applications/licenses or amendment to licenses in order to cater for different composting processes in different environments. If a facility is not strictly conforming to the standard in its design or processes but demonstrates along with technical justification there is no significant environmental risk due to other natural or technologically advanced pollution



control mechanisms then this should be given credibility and assessed independently of the standard.

Recommendation: The standard needs to incorporate a more flexible risk based approach.

For questions and clarification regarding this submission please contact:

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