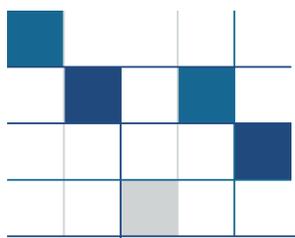


Consultation summary

Guideline: Better practice organics recycling

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Inquiries

WA Department of Water and Environmental Regulation

Regional Delivery Directorate

Prime House, 8 Davidson Terrace

Joondalup Western Australia 6027

Postal address: Locked Bag 10, Joondalup DC, WA 6919

Email: info@dwer.wa.gov.au

Telephone: +61 8 6364 7000

Facsimile: +61 8 6364 7001

National Relay Service 13 36 77

Website: www.dwer.wa.gov.au

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1. Background

The Department of Water and Environmental Regulation (the department) is developing a suite of documents to guide the administration of our regulatory functions under Part V Division 3 of the *Environmental Protection Act 1986* (EP Act).

The Guideline: Better practice organics recycling¹ (guideline) provides information to applicants, operators, licence holders, consultants, members of the public and department staff on the environmental performance objectives (EPOs) and benchmark controls² for the planning, design and operation of organics recycling facilities regulated under Pt V Division 3 of the EP Act.

The guideline also defines ‘better practice’ for organics recycling facilities in relation to the Waste Avoidance and Resource Recovery Strategy 2030 (Waste Strategy 2030) that is set through Pt 4 of the *Waste Avoidance and Resource Recovery Act 2007* (WARR Act).

The organics recycling industry is an integral part of the state’s waste industry. It has an important function to recover and recycle organic materials to generate recycled organic products in support of a circular economy.

The draft Guideline: Better practice composting (draft guideline) was released on 25 May 2020 for six months’ public consultation, closing 25 November 2020.

This document summarises the submissions, key issues raised, our responses and the resulting changes and improvements to the draft guideline.

2. Summary of consultation submissions

The department received 22 submissions that gave rise to more than 400 comments and recommendations on the draft guideline. See Appendix A for an alphabetical list of the respondents.

Noting that the approach to regulating organics recycling facilities described in the draft guideline sets out new concepts, the submissions raised concerns about the proposed new approach and requested clarification on how the concepts would work in practice.

There was support for the draft guideline, noting that it had been in development for a number of years. Some supporting comments on the overall approach to the draft guideline included:

¹ As a result of amendments to the draft guideline, we have amended the scope and title of the guideline; that is, from *Guideline: Better practice composting* to *Guideline: Better practice organics recycling* (see Section 3.2 of this consultation summary).

² We replaced references to ‘minimum standards’ in the draft guideline with the term ‘benchmark controls’ in the guideline and provided additional supporting information explaining the approach to ‘alternative controls’. To be consistent with the approach in the guideline, all references to ‘minimum standards’ in this consultation summary have been replaced with the term ‘benchmark controls’ and where appropriate ‘alternative controls’ (see Section 3.4 of this consultation summary).



- *'... [the] approach in the guideline of setting the outcome – via the environmental performance objectives – is supported'*
- *'... as a whole I feel the document is on the correct path'*
- *'... supports the draft guideline and commends DWER on its thorough coverage of the requirements for prescribed composting premises'*
- *'...taking a better practice approach has the potential to provide much clearer guidance ... to move beyond compliance to a continuous improvement model'.*

Key concerns raised in the submissions on the draft guideline included:

- a perceived lack of clarity about the approach and purpose
- the view that the benchmark controls did not allow for alternative controls
- the view that the guideline was too prescriptive and restrictive with some benchmark controls being unnecessary to achieve the EPO
- uncertainty over how the guideline would be implemented.

We received many useful suggestions in the submissions that resulted in a significant number of improvements to the guideline.

3. Response to submissions

This section consolidates submissions into a set of key issues with the department's responses. We considered all submissions in the preparation of this summary but, due to the quantity, we have not provided responses to individual submissions.

We note that, at the time of publication, the Australian Government is exploring opportunities under the National Waste Policy for national standards and specifications for organic waste products. We will seek to align the approach set out in the guideline with any national accreditation scheme for recycled organic products.

3.1 Key issue: Approach and purpose of the guideline

3.1.1 Summary of submissions

The key concerns with the draft guideline related to:

- the view that the draft guideline does not acknowledge the organics recycling industry's role in helping to achieve the Waste Strategy 2030 objectives
- a lack of clarity about the concept of better practice and the approach linking better practice, EPOs and benchmark controls to environmental regulatory requirements
- the view that the draft guideline does not adequately reflect the better practice concept and is too focused on compliance with benchmark controls
- the view that the draft guideline is restrictive and directs operators on how to produce compost rather than how to achieve the EPOs.



3.1.2 Department response to submissions

The organics recycling industry's use of organic waste materials to produce beneficial products such as mulches and composts helps reduce waste and supports Western Australia's move towards a circular economy. We acknowledge that the organics recycling industry has a significant role in waste recovery and recycling activities and supports Waste Strategy 2030 'Objective 2: Recover – Western Australians recover more value and resources from waste'.

The purpose of the guideline is to:

- explain the regulatory framework that will be implemented under Pt V Division 3 of the EP Act to prevent and, where that is not possible, minimise the risk of pollution and environmental harm from better practice organics recycling facilities
- define 'better practice' for organics recycling facilities for the purpose of the Waste Strategy 2030 'Objective 3: Protect – Western Australians protect the environment by managing waste responsibly' and the related target for all waste to be managed and/or disposed to better practice facilities by 2030.

By its definition better practice is a continual improvement process that supports the transition to a low-waste circular economy.

The purpose of the guideline has been framed by:

- outcome-focused EPOs that address the key aspects of pollution and environmental harm that may occur as a result of activities at organics recycling facilities
- risk-based benchmark controls to guide operators on how to achieve the EPOs and identify when they need to justify suitable alternative controls, and to help the department determine that the EPOs have been achieved.

Consistent with Pt V Division 3 of the EP Act, the regulatory framework applies an outcome-focused risk-based approach to regulate prescribed premises to prevent and minimise pollution and environmental harm. This is achieved by setting conditions on works approvals and licences.

The guideline sets a standard from which conditions, based on benchmark or alternative controls, can be set on works approvals and licences consistent with the approach set out in the guideline and the 'Guideline: Risk assessments'. Benchmark controls need to be sufficiently clear to inform this process. Alternative controls provide operators with flexibility to achieve the EPOs in a manner that suits their approach to organics recycling and site-specific circumstances.

Consistency with other jurisdictions

In preparing the guideline we have considered the approaches taken in other jurisdictions and for similar industry types. In considering the consultation responses to the draft guideline and the guidance from other jurisdictions (see Bibliography in this consultation summary), we have determined that – with the changes summarised below – the approach to the guideline is reasonable and appropriate to achieve the purpose explained above.



Summary of changes made to the guideline

We have made the following changes to the guideline:

- Added a definition for ‘better practice’, derived from the Waste Strategy 2030, to the Glossary.
- Amended Section 1 ‘Purpose’ to better frame the approach of EPOs – being the overarching outcomes that must be achieved, and benchmark controls – being the supporting standard.
- Added Section 6 ‘Achieving better practice’ and Section 6.1 ‘Environmental performance objectives’ – to more clearly define how better practice is achieved and applied within the regulatory framework.
- Added sections 6.2 ‘Benchmark controls’ and 6.3 ‘Alternative controls’, expanding on the concepts raised in the draft guideline, to clearly establish how achieving EPOs and better practice can be demonstrated.

See sections 3.3, 3.4 and 3.8 of this consultation summary for further information on the changes summarised above.

3.2 Key issue: Scope of the guideline

3.2.1 Summary of submissions

The key concerns with the draft guideline related to:

- the view that it applied an unfair regulatory framework to composting facilities compared with other similar prescribed premises
- the view that it captured too many activities within the scope of ‘composting’, including aerobic, anaerobic and vermiculture processes, and that the scope should be broadened to ‘organic waste reprocessing’ or ‘organics recycling’
- a lack of clarity over how it applied to secondary and non-prescribed composting activities
- a lack of clarity over how it applied the ‘production and design capacity’.

3.2.2 Department response to submissions

Regulatory fairness and activities relevant to the scope

The guideline is the first publication that sets the framework for the regulation of a prescribed premises under Pt V Division 3 of the EP Act and concurrently sets the standard for better practice to fulfil the requirements of the Waste Strategy 2030.

We acknowledge concerns about clarity in the scope of the draft guideline and address them through the changes summarised below. We have amended the scope of the guideline to cover the organics recycling industry more holistically, by including mechanical processing of organic wastes such as shredding, grinding and chipping.



Mechanical processing of organic wastes is currently regulated under Category 61A, as described in Schedule 1 of the EP Regulations and Table 1 below.

Table 1: Category 61A description from Schedule 1 of the EP Regulations

Category and description	Production or design capacity
Category 61A solid waste facility: premises (other than premises within category 67A) on which solid waste produced on other premises is stored, reprocessed, treated, or discharged onto land.	1,000 tonnes or more per year

Category 61A premises that reprocess organic wastes and Category 67A premises that compost organic material both produce recycled organic products using waste materials as feedstocks. We broadened the scope of the guideline on the basis that these types of prescribed premises pose similar risks to the environment and require similar controls to prevent and minimise pollution and environmental harm. The new approach supports more consistent regulation of different types of organics recycling activities under Pt V Division 3 of the EP Act.

Prescribed premises undertaking activities such as soil blending, waste storage and fertiliser manufacturing use different inputs and processes and therefore present different risk profiles. In addition, they do not incorporate the primary activity of organics recycling. This does not mean that the EPOs are not relevant to such activities. Some benchmark controls in the guideline are fit-for-purpose for aspects of these activities; however, these activities are not within the scope of the guideline.

Definitions for specific types of organics recycling are provided in the guideline Glossary section.

Secondary and non-prescribed activities

The guideline will be applied to secondary organics recycling activities at prescribed premises. Organics recycling activities at premises that are not prescribed premises are not within the scope of the guideline; nevertheless, the guideline can support operators of these facilities to meet their obligations under the general provisions of the EP Act.

Production and design capacity

The production and design capacity for organics recycling activities is dependent on the relevant prescribed premises category under Schedule 1 of the EP Regulations.

For example, Category 61A solid waste facility production or design capacity is related to the quantity (tonnes) of solid waste the facility is designed to receive and reprocess per year. In contrast, Category 67A compost manufacturing and soil-blending production and design capacity is related to the quantity (tonnes) of product that is or can be produced at the facility per year. Further information about the production or design capacity of prescribed premises is provided in our *Guideline: Industry regulation guide to licensing*.



Summary of changes made to the guideline

We have expanded the scope of the guideline from composting to organics recycling more broadly, as reflected in the title of the guideline. This and other changes relating to the scope are summarised in Table 2.

Table 2: Changes in the scope from the draft guideline to the guideline

Component Changed	Draft guideline	Published guideline
Guideline title	Better practice composting	Better practice organics recycling
Relevant categories under Schedule 1 of the EP Regulations	Category 67A compost manufacturing and soil blending	Category 61A solid waste facility Category 67A compost manufacturing and soil blending
Activities within the scope	Aerobic composting Anaerobic digestion Vermiculture	Aerobic composting Anaerobic digestion Vermiculture Mechanical processing
Production and design capacity	Tonnes of product which can potentially be produced at the facility per year	Category 61A – tonnes of solid waste the facility is designed to receive and reprocess per year Category 67A – tonnes of product that can potentially be produced at the facility per year

In addition, we have amended Section 2 ‘Scope’ in the guideline to more clearly list activity types that are out of scope, as well as explain how the guideline can help operators of activities that are outside of the scope to meet their obligations under the general provisions of the EP Act.

We have amended Section 8.10 ‘Product quality’ in the guideline to reflect the broader range of recycled organic products produced at organics recycling facilities, compared with the draft guideline that only addressed composts. These changes are summarised in Section 3.6 of this consultation summary.

Other additions to the guideline include definitions for the following terms in the Glossary: ‘aerated static pile’, ‘in-vessel composting’ and ‘windrow composting’. These complement the definitions for ‘aerobic composting’, ‘anaerobic digestion’ and ‘vermiculture’.



3.3 Key issue: Environmental performance objectives

3.3.1 Summary of submissions

We appreciate the general support expressed in the submissions for the EPO concept and an outcome-focused regulatory approach.

The key concerns with the draft guideline related to:

- the view that its consideration of amenity impacts in the EPOs was insufficient
- a lack of clarity over the use of the term 'human health'
- a lack of clarity over definitions for the terms 'unacceptable' and 'unreasonable'
- a lack of clarity over how the term 'regular' could be applied and the frequency that actions may be required
- a preference that products are not referred to as waste-derived materials.

Note: We address concerns related to implications of the proposed waste-derived materials legislative framework in Section 3.6 of this consultation summary.

3.3.2 Department response to submissions

Amenity

We addressed amenity impacts in the EPOs of the draft guideline by referring to the protection of 'social surroundings'. Social surroundings are in the definition of 'environment' under the EP Act s.3 and capture the same considerations as the term 'amenity' referred to in our Guideline: Risk assessments.

Public health

We have clarified that the guideline applies to the protection of 'public health' rather than 'human health', a term that could include worker health and safety.

Unreasonable and unacceptable

The terms 'unreasonable' and 'unacceptable' need to be considered within a site-specific scope and context. In the draft guideline we used:

- The term 'unreasonable' within the EPOs for odour and noise. The term 'unreasonable' is addressed within EP Act s.49 as it relates to emissions generally, such as odour, and EP Act s.3 and s.79 as it relates specifically to emissions of noise.
- The term 'unacceptable' within the EPOs for dust, feedstocks for waste-derived products and waste-derived material composition (product quality). The term 'unacceptable' is based on the 'Guideline: Risk assessments' that identifies extreme risk events are unacceptable and high-risk events may be unacceptable.



Frequency of 'regular'

The draft guideline addressed the term 'regular' as it refers to the frequency of certain benchmark controls being implemented in some detail. The term was not explicitly linked to the risk-based approach set out in the 'Guideline: Risk assessments'. The frequency of an action (i.e. monitoring) may be specified in a licence depending on the type of action and the risk that action helps mitigate.

Higher frequencies of an action can be justified where the action helps mitigate higher-risk aspects of an activity. We do not consider it appropriate to set fixed frequencies in the guideline to address when actions should be implemented for all benchmark controls, but this may be useful and appropriate for some benchmark controls.

Summary of changes made to the guideline

We have amended the EPO statements to more clearly align with the purpose of instruments issued under Pt V Division 3 of the EP Act and to better define the required outcome using consistent terms. Department-initiated changes to the EPOs are addressed in Section 3.11 of this consultation summary, including the explicit framing for emissions to be prevented and, where that is not possible, minimised.

The amended EPOs capture amenity considerations by referencing the protection of the environment. The term 'human health' has been replaced with the term 'public health' throughout the guideline.

The terms 'unreasonable' and 'unacceptable' have been removed from the EPO statements, except for 'unreasonable noise', which is defined in the EP Act.

We have removed references to waste-derived materials from the EPOs. The EPO for 'Waste-derived material composition' in the draft guideline has been renamed to 'Product quality' and the EPO for 'Feedstocks for waste-derived products' has been renamed to 'Feedstocks'.

We have amended content explaining the term 'regular' and put it in the Glossary.

3.4 Key issue: Benchmark controls

3.4.1 Summary of submissions

The key concerns with the draft guideline related to:

- the view that alternative controls were not supported and that the benchmark controls in the draft guideline would not allow operators to achieve the EPOs through other innovative and site-specific approaches
- a lack of clarity on which benchmark controls applied to different types of composting
- the view that benchmark controls were too focused on the more common composting methods and controls (e.g. open windrow composting)
- the view that benchmark controls were too broadly applied to all activities and should have instead been grouped based on the risk categories of feedstocks



- the view that benchmark controls did not take a risk-based approach.

Note: Stakeholder submissions about specifications within the benchmark controls and our responses are addressed in Section 3.7 of this consultation summary. Department-initiated changes to benchmark controls are addressed in Section 3.11 of this consultation summary.

3.4.2 Department response to submissions

We understand that the large number of submissions received on this issue are based on the perception that operators must implement the benchmark controls as listed in the draft guideline.

We acknowledge that the approach to benchmark and alternative controls in the draft guideline was not adequately explained in the 'Implementation' section and that relevant information which was presented in Appendix A: 'Implementation additional information' should have been set out at the start of the document.

At some organics recycling facilities, implementing all benchmark controls is not necessary to achieve an EPO and alternative controls can be used in place of benchmark controls.

Benchmark controls are based on common and reasonable requirements that can be applied to organics recycling facilities and ensure an EPO has been achieved. It is not reasonable to specifically address all possible methods of organics recycling within the benchmark controls in the guideline.

Some benchmark controls do not apply to all organics recycling methods and feedstocks. We acknowledge that the guideline should identify which benchmark controls apply across all organics recycling facilities and which benchmark controls apply to certain processing methods or feedstocks.

Future versions of the guideline may adapt the benchmark controls to reflect new approaches and methods in the industry as they become more common.

Benchmark controls set a transparent standard that can be used to:

- assess whether the EPOs have been achieved, or
- compare with alternative controls that demonstrate innovative or site-specific controls that still ensure the EPOs have been achieved.

In the guideline, we have selected benchmark controls to protect the environment, including water resources, public health and amenity from pollution and environmental harm, generally for low to medium-risk organics recycling facilities. This level of risk tolerance was not explicitly stated in the draft guideline. As such, we have amended the guideline in Section 7 'Environmental siting' and Section 8.1 'Feedstocks' (see Section 3.5 and 3.8 of this consultation summary).

We will apply benchmark/alternative controls as conditions on licences or works approvals issued under Pt V Division 3 of the EP Act, consistent with the risk-based



approach set out in the Guideline: Risk assessments. This means, in general, higher-risk aspects of organics recycling facilities will be subject to more management-based conditions.

Summary of changes made to the guideline

We have added Section 6 'Achieving better practice' to the guideline, which includes subsections that more clearly set out the approach to benchmark controls (guideline section 6.2) and alternative controls (guideline section 6.3).

The approach in the draft guideline of designating that some benchmark controls only apply to certain activities or feedstocks has been retained and we have amended the guideline to convey this more clearly. Some benchmark controls in the guideline only apply to certain organics recycling methods or infrastructure and equipment. Based on changes to the feedstock categories, as discussed in Section 3.5 of this consultation summary, some benchmark controls in the guideline only apply to standard feedstocks or non-standard feedstocks.

3.5 Key issue: Feedstock categories

3.5.1 Summary of submissions

A number of submissions commented on the descriptions and risk categories that the draft guideline set out for different feedstocks. The key concerns related to:

- the lack of clarity about our basis for allocating each feedstock type as low, moderate or high risk
- the view that some feedstock descriptions were too vague
- the suggestion that the list of feedstocks should be expanded to include additional waste types such as municipal solid waste
- the view that feedstock descriptions did not align with established guidance on waste sorting, such as for garden organics (GO) and food organics and garden organics (FOGO).

Additional submissions relating to other parts of Section 8.1 'Feedstocks', including the benchmark controls, are summarised in Appendix B.

3.5.2 Department response to submissions

We acknowledge that the list of feedstocks presented in the draft guideline was not comprehensive and did not include all feedstocks received at organics recycling facilities.

Due to the diversity of materials that could potentially be used as feedstocks in an organics recycling process, it is not possible to provide a complete list of feedstocks and their risk categories within the guideline. Instead, we consider that the guideline should include a list of feedstocks commonly accepted at organics recycling facilities. Other feedstocks may also be suitable for acceptance at an organics



recycling facility but we would need to consider these on a case-by-case basis as their source, composition and potential to affect product quality or contribute to emissions may not be well understood.

The risk categories applied to feedstocks in the draft guideline were based on the potential for feedstocks to contribute to leachate and odour emissions at the premises or introduce contaminants to products. We acknowledge that the draft guideline did not clearly explain the basis for the risk category applied to each feedstock and that more detailed descriptions will help clarify this issue.

We agree that the descriptions of the GO and FOGO waste streams in the draft guideline did not align with established waste sorting guidance.

Compostable packaging and plastics

We did not receive any submissions that explicitly addressed compostable packaging and plastics; however, we acknowledge that this may be a waste type that could enter some FOGO waste streams.

The Waste Authority's FOGO Reference Group (FRG) has identified the challenges that compostable packaging and plastics present to FOGO processing systems. The FRG is broadly of the view that compostable kitchen caddies should be the only form of packaging that FOGO systems accept; this is because they are for the specific purpose of encouraging residents to separate and dispose of organics.

We will work with other jurisdictions as part of Western Australia's commitments under the National Waste Policy, including organic recovery commitments. We will also work with the Australian Packaging Covenant Organisation that is undertaking work on compostable plastic packaging as part of Australia's 2025 National Packaging Targets.

Summary of changes made to the guideline

We revised our approach to categorising feedstocks by introducing the new groupings of 'standard feedstocks' and 'non-standard feedstocks':

- Standard feedstocks include those feedstocks commonly used by the organics recycling industry. Due to their common usage, the potential risks associated with standard feedstocks – such as contaminants and contribution to emissions – are relatively well understood. Standard feedstocks are grouped into low, moderate and high-risk feedstock types.
- Non-standard feedstocks include those feedstocks not widely used in the organics recycling industry or having a variable composition due to their nature and source. The composition of non-standard feedstocks may not be well characterised and their potential impact on product quality and emissions may not be well understood.

The feedstock groups outlined above allow the guideline to set different benchmark controls for premises that only accept standard feedstocks and those that accept non-standard feedstocks. This provides a more risk-based approach where controls are proportionate to the types of feedstocks accepted at a facility.



In the guideline we have amended the benchmark control for liquid feedstocks, which were to undergo characterisation before being accepted, to instead apply to non-standard feedstocks (liquids and solids). Some liquid wastes are listed as standard feedstocks and do not require characterisation because they present a lower risk of contamination or are well characterised and have a consistent quality.

Liquids and solids considered non-standard feedstocks require characterisation before acceptance because their quality may not be known or may be variable between sources or over time. The requirement for non-standard feedstocks to undergo characterisation will provide us with an opportunity to assess the risks associated with proposed non-standard feedstocks and determine whether they are suitable to achieve the EPO.

The following feedstocks are considered non-standard feedstocks and are not included in the list of standard feedstocks in the guideline: municipal solid waste, contaminated solid waste, oil interceptor wastes, oil sludges, oils including waste mixtures/emulsions of oils and water or hydrocarbons and water. Operators proposing to accept non-standard feedstocks must demonstrate they are suitable to achieve the EPO for feedstocks and we will assess these proposals on a case-by-case basis.

We have also amended the subsection 'Feedstock categories' as follows:

- revised the standard feedstock descriptions to align with established guidance, provide clarification on what is included/excluded from that feedstock type and explain the basis for the risk category
- revised the standard feedstock risk categories based on feedback in submissions and a review of guidance and reviews from other jurisdictions
- added the following feedstocks to the standard feedstock table: forestry residues, inorganic additives and mushroom growing substrate.

We have added a footnote to the description of FOGO in the table of standard feedstocks (Table 4 in the guideline) to clarify that the list of wastes within this feedstock is based on common rules for local government waste collections but is not intended to be a definitive waste acceptance specification. An operator's decision on which wastes are acceptable within FOGO feedstocks should be based on which wastes the proposed organics recycling method effectively and reliably breaks down and/or treats to produce a product that achieves the EPO for product quality.

The information contained in Australian Standard 4736 Biodegradable plastics suitable for composting and other microbial treatment (Standards Australia 2006) or Australian Standard 5810 Biodegradable plastics suitable for home composting (Standards Australia 2010) may help to guide operators who are considering whether compostable materials are suitable inputs to the FOGO waste collections where they source their feedstocks.

Additional amendments to Section 8.1 'Feedstocks' are summarised in Appendix B.



3.6 Key issue: Product quality

3.6.1 Summary of submissions

Some submissions indicated support for the inclusion of product quality requirements in the draft guideline, based on the following reasons:

- safe reuse of materials is an essential goal
- there need to be safeguards in place to protect the environment and public health
- maintaining product quality is important to the long-term viability of the circular economy
- composters should demonstrate that their products do not present an unacceptable risk to the environment and public health when used for their intended purpose.

The key concerns with the approach to regulating product quality outlined in the draft guideline related to why and how product quality was being addressed, including:

- the view that regulation of product quality is outside the scope of the draft guideline
- the view that regulation of compost product quality is inequitable with the regulation of other types of products, would impact the economic viability of operations, or should focus more on regulating waste generation and sources
- the view that regulation of compost product quality is unnecessary and will be addressed in the proposed regulatory framework for waste-derived materials
- the view that regulation of compost products to comply with Australian Standard AS 4454 Composts, mulches and soil conditioners (AS 4454) (Standards Australia 2012) is inappropriate
- the view that regulation of compost product quality should be based on national standards
- the view that the proposed product testing regime is onerous and not proportionate to the risks associated with different feedstocks.

3.6.2 Department response to submissions

Rationale for inclusion in the guideline

We acknowledge that some submissions were opposed to the product quality approach outlined in the draft guideline. We also wish to affirm the collective responsibility to support the move to a circular economy and the importance of demonstrating that waste-derived materials are fit-for-purpose. The following points provide further context to help stakeholders understand our rationale for including product quality within the scope of the guideline:

1. Potential for pollution or environmental harm



Recycled organic products are produced using a diverse range of wastes and products as feedstocks. Recycled organic products may contain biological, chemical and physical contaminants if inappropriate feedstocks are accepted for recycling and/or the organics recycling method does not adequately treat or remove contaminants in feedstocks.

Contaminated recycled organic products have the potential to cause pollution or environmental harm when the products are used, for example, by the discharge of contaminants into the environment or exposing the general public to contaminants via direct contact with products.

2. Current legislative framework

Many feedstocks used to produce recycled organic products are wastes. The current legislative framework does not prescribe when waste-derived materials, or products, cease to be wastes. Waste is defined under s.3(1) of the EP Act and s.3(1) of the WARR Act to include matter:

- a) whether liquid, solid, gaseous or radioactive and whether useful or useless, which is discharged to the environment; or
- b) prescribed to be waste.

Under the current legislative framework, organics recycling facility operators are responsible for determining if their outputs are wastes or not. Our 'Factsheet: Assessing whether material is waste' (DWER 2018) sets out the matters relevant to determining whether a material is a waste.

This approach can create uncertainty around whether outputs from organics recycling facilities are wastes and hence whether their storage, transport or discharge onto land will attract licensing, controlled waste or waste levy requirements. This uncertainty may reduce consumer confidence and inhibit the uptake and market development of recycled organic products.

'Substantial transformation' is a key factor in assessing whether material has ceased to be a waste, and meeting relevant specifications or standards is a key consideration in assessing whether a waste has been substantially transformed. Existing standards such as AS 4454 may not be sufficiently comprehensive and are not universally adopted across the organics recycling industry.

The approach outlined in the guideline provides a standard for operators to use to inform their assessment of whether their outputs are wastes or products. The benchmark controls for product quality in the guideline will also lead to more consistent regulation of recycled organic product quality across the industry.

3. Waste-derived materials framework

The concept and purpose of a waste-derived materials legislative framework was explored in the 'Issues paper: Waste not, want not: valuing waste as a resource' (DWER 2019b) and submissions are discussed in the 'Consultation summary report: Waste not, want not: valuing waste as a resource' (DWER 2021).

While such a legislative framework may not be in effect for some time, the rationale for a fit-for-purpose, waste-derived materials legislative framework has been established and we consider this is consistent with the approach to product



quality in the guideline. We will review the guideline in the future to ensure the content aligns with a waste-derived materials legislative framework.

4. Alignment with other jurisdictions

We reviewed the regulatory approach to recycled organic product quality in other Australian states when preparing the guideline. In conducting this review, we considered activity-based guidelines with a similar regulatory function to our guideline, as well as waste-derived material or end-of-waste frameworks from New South Wales, Victoria, South Australia and Queensland. We also considered the findings of the following reviews:

- Review of regulations and standards for recycled organics in Australia, prepared for the Department of Agriculture, Water and Environment (Wilkinson, Price, Biala and McDonald 2021).
- International comparison of the Australian Standard for composts, soil conditioners and mulches (AS 4454 – 2012), prepared for the Australian Organics Recycling Association (Biala and Wilkinson 2020).
- Critical evaluation of composting operations and feedstock suitability, Phase 2 – Contamination, prepared for the Department of Environment and Science Queensland (Arcadis 2019b).

There are a range of approaches to regulating recycled organic product quality across other Australian jurisdictions. We consider that the approach in the guideline generally aligns with other Australian jurisdictions and retains a risk-based approach in accordance with our regulatory framework.

Consistent regulation

One of our objectives for including product quality requirements in the guideline is to ensure that recycled organic product quality is consistently regulated and to encourage a more even playing field within the organics recycling industry. We acknowledge that these products may compete in the same markets as other soil amendments that are outside the scope of the guideline. We consider that more consistent regulation of recycled organic product quality can help improve consumer confidence and increase market demand for these products.

Australian Standard AS 4454

The draft guideline did not mandate compliance with AS 4454. The draft guideline sets out two possible options for operators to demonstrate that their products are fit-for-purpose.

The first is to comply with AS 4454 and the P1C1 unrestricted-use requirements in the Western Australian guidelines for biosolids management (biosolids guidelines) (Department of Environment and Conservation 2012). The second is to develop and maintain a fit-for-purpose product specification tailored to each specific product. This approach acknowledges that compost products may be fit-for-purpose for a specific end use without meeting the specifications in AS 4454 or the biosolids guidelines.



The only current national standard for recycled organic product quality is AS 4454, which has limitations in scope and content. Previous consultation with industry stakeholders identified a strong preference for us not to rely solely on AS 4454 when setting product quality requirements and to allow flexibility for alternative approaches. This preference was reinforced by submissions on the draft guideline.

The product quality approach in the guideline is a balanced approach that provides industry with options while following our risk-based regulatory framework. We do not intend to design fit-for-purpose product specifications ourselves but will assess those that operators propose.

Product sampling regime

We acknowledge that the product sampling regime outlined in the draft guideline was simple considering the diverse range of feedstocks accepted at organics recycling facilities. The draft guideline specified a product sampling rate of one sample per batch (at a minimum rate of one sample per 500 tonnes), which may be considered onerous for products produced from lower-risk feedstocks. A tiered approach where the sampling frequency changes for different feedstocks would mean the sampling regime was more proportionate to the risk of product contamination.

Start of the waste cycle - waste generation and sources

We acknowledge that organics recycling facilities are not always able to control the quality of feedstocks they receive; for example, there is a certain level of contamination in municipal kerbside FOGO collections. While measures to control feedstock contamination at the waste source are outside the scope of the guideline, we are working with the Waste Authority on separate initiatives to improve the quality of some feedstocks.

For example, the Waste Authority's Better Practice FOGO kerbside collection guidelines (FOGO guideline) includes information on how to reduce contamination. Local governments participating in the Better Bins Plus: Go FOGO program are required to implement services consistent with the FOGO guideline.

Furthermore, the Waste Authority has identified that contamination is a key issue to be managed to support the successful rollout of FOGO services. The Waste Authority's FOGO rollout plans, developed with support from the FOGO Reference Group, contain actions that aim to reduce contamination and improve the quality of FOGO feedstock. For example, the WasteSorted toolkit, delivered under the 'Be a GREAT Sort' campaign, helps local governments communicate with their residents about waste and recycling services and supports consistent and effective messaging across the state.

The Plan for three-bin FOGO system rollout: 2021–22 commits to producing a step-by-step guide (planning, implementation, monitoring) to support better practice FOGO services, including addressing contamination.



Summary of changes made to the guideline

Based on the submissions discussed above, in Section 8.10 'Product quality' we have:

- Provided a stronger emphasis on contaminants in waste feedstocks as the basis for the inclusion of product quality requirements in the Overview and objective.
- Introduced new terms to clarify the two approaches to achieve the EPO for product quality, being:
 - 'Category A products' that comply with the minimum requirements set out in AS 4454 and, if relevant, the P1C1 unrestricted-use requirements in the biosolids guidelines
 - 'Category B products' that comply with a fit-for-purpose product specification.
- Adopted a tiered product sampling regime that specifies different sampling frequencies based on the categories of feedstocks used. The revised sampling frequencies range from one sample per 10,000 tonnes of product for raw mulches produced using low-risk feedstocks to one sample per batch (at a minimum rate of one sample per 500 tonnes) for products partially or wholly derived from non-standard feedstocks.

We have amended Section 8.10 'Product quality' based on the change in scope discussed in Section 3.2 of this consultation summary:

- The 'Overview and objective' clarifies that the EPO for product quality applies to solid and liquid products intended for amending the physical and chemical properties of natural or artificial soils and growing media, but the benchmark controls in this section are only relevant to solid products. We will consider liquid products on a case-by-case basis.
- We have removed the requirement for all products to undergo pasteurisation because this may not apply to some recycled organic products within the scope of the guideline.
- We have added a requirement for operators to classify Category A products as a raw mulch, pasteurised product or compost, as defined in AS 4454, with different product quality requirements specified for each of these product types.

Furthermore, we have added the following terms to the Glossary: 'Category A product', 'Category B product', 'pasteurised product', 'product', 'raw mulch' and 'solid'.

3.7 Key issue: Specifications in benchmark controls

3.7.1 Summary of submissions

Most of the comments received related to the specifications and justification for certain benchmark controls. We have addressed some of these concerns through our responses set out in sections 3.1, 3.4 and 3.6 above.



The key concerns with the draft guideline related to the consistency, justification and specifications for individual benchmark controls.

3.7.2 Department response to submissions

We consider that the benchmark controls in the guideline are consistent with the Pt V Division 3 EP Act regulatory framework, better practice under the Waste Strategy 2030 and approaches taken in other jurisdictions for similar activities and risk events. This is supported by the approach to achieving EPOs through benchmark and/or alternative controls.

We consider that the benchmark controls in the guideline are adequately justified. Sections 3.1, 3.3 and 3.4 in this consultation summary address the approach to benchmark/alternative controls in more detail.

Not all benchmark controls must be implemented at all organics recycling facilities to achieve the corresponding EPO.

We considered the consultation submissions and documents listed in the Bibliography section when we reviewed the benchmark control specifications. The outcome of this review is summarised in Appendix B for the relevant benchmark controls under each EPO. Department-initiated changes to the benchmark controls are addressed in Section 3.11 of this consultation summary.

Summary of changes made to the guideline

See Appendix B for a summary of the changes we made to the specifications within the benchmark controls for each relevant EPO. Additional changes to the benchmark controls in Section 8.10 'Product quality' are documented in Section 3.6 of this consultation summary. The changes include some benchmark controls being removed, amended to broaden the scope of specifications, or amended to better frame the outcome-focused approach to achieving the EPO.

3.8 Key issue: Environmental siting

3.8.1 Summary of submissions

We received submissions that raised the following areas of concern:

- the view that the siting requirements were not sufficiently risk-based or were too restrictive
- uncertainty about the implications for existing premises located close to certain receptors
- conflicting views about the approach to depth to groundwater and consideration of seasonally perched aquifers
- the view that consultation with neighbouring landholders and sensitive receptors should be required



- identification that buffer encroachment is a significant issue for the industry and the view that the department should protect industry from the encroachment of sensitive land uses.

3.8.2 Department response to submissions

Environmental siting factors and separation distances do not replace the role of a site-specific risk-based assessment. The exclusion areas and separation distances address the main receptor types and frame the context for the types of benchmark controls in the guideline. We consider that the separation distances in the draft guideline are generally appropriate to achieve these outcomes and frame the siting expectations for an organics recycling facility to be considered low to medium risk.

The environmental siting factors and separation distances in the guideline will inform the risk assessment process for all new and existing organics recycling facilities. Where a facility does not meet all environmental siting factors and separation distances, better practice may still be achieved with the appropriate application of benchmark and alternative controls.

The reference to the Guideline: Odour emissions in the draft guideline's siting standards table was not intended to result in the screening distances in the document being implemented as separation distances. The purpose of screening distances in the department's emission guidelines is to give an initial indication of potential risks from that emission, inform the level of regulatory controls that may be required and determine the type of supporting documentation needed in an application. An applicant must still follow the process set out by emission screening tools in the department's emission guidelines when the environmental siting factors and separation distances in the guideline have been met.

We agree that the minimum vertical separation distance from the base of containment infrastructure to the maximum groundwater level should also apply to seasonal perched aquifers because these can act as contaminant transport pathways and influence groundwater-dependent ecosystems. Taking into account this change and other benchmark controls, the minimum vertical separation distance of 3 m may be overly conservative.

Stakeholder consultation is good practice and part of the regulatory framework; however, this practice is outside the scope of what can be set as a benchmark control within the guideline. We recommend that operators and stakeholders consult directly with one another about concerns and opportunities.

We understand that organics recycling facility operators are concerned about buffer encroachment, however this issue primarily relates to land use planning decisions that are outside the scope of the guideline.

Summary of changes made to the guideline

We have removed the environmental siting section from the list of EPOs. While the environmental siting factors and separation distances are mostly consistent between the draft guideline and guideline, we have reframed the environmental siting objective to establish, more clearly, the role of better practice environmental siting.



The role of environmental siting is to support organics recycling facilities to select appropriate locations that minimise the potential for pollution and environmental harm and ensure that the benchmark controls for the EPOs in the guideline are effective within that context.

We have made other amendments to clarify:

- how the environmental siting factors and separation distances are considered at new and existing organics recycling facilities
- where the siting factors and separation distances are not met, additional alternative controls may be required to achieve the EPOs
- that screening distances in the department's emissions guidelines are not intended to be applied as minimum separation distances; however, operators should consider the emission guidelines, which complement this guideline, when siting organics recycling facilities
- that the minimum vertical separation distance to groundwater is 2 m not 3 m, noting a precautionary approach should be taken where depth is uncertain
- that seasonally perched aquifers are included when assessing depth to groundwater.

3.9 Key issue: Implementation of the guideline

3.9.1 Summary of submissions

Submissions on the guideline's implementation related to uncertainty about the process and timeframes, and implications for existing composting facilities.

The key concerns with the draft guideline related to:

- the view that an outcome-focused risk-based approach to implementing the guideline may not be taken
- the view that existing composting facilities should be subject to different controls than the benchmark controls applied to new facilities
- a lack of clarity and transparency on the implementation approach and timeframes, including the information set out within Appendix A of the draft guideline.

Some concerns about the guideline's implementation related to:

- the use of benchmark and alternative controls (Section 3.4 of this consultation summary)
- the proposed waste-derived materials legislative framework (Section 3.6 of this consultation summary).



3.9.2 Department response to submissions

We acknowledge the uncertainty and lack of clarity about the guideline's implementation in the draft guideline. Our amendments to the guideline and approach to implementation should provide greater clarity.

A risk-based approach is central to the regulatory framework and decision-making processes under Pt V Division 3 of the EP Act. The EPO concept establishes the outcomes and the benchmark and alternative control concept supports the risk-based approach to ensure EPOs are achieved. This approach is considered appropriate for both new and existing organics recycling facilities.

We intend to start the implementation program for existing facilities in 2022 after developing procedures and tools to support the industry. The specific timing of the implementation program will be informed by the publication of appropriate implementation products. We intend to publish a procedure that will include tools to support operator self-assessments.

The 'Guideline: Industry regulation guide to licensing and Procedure: Prescribed premises works approvals and licences' set out the processes that apply to licence and works approval applications and amendments, including consultation and appeals processes. Implementation of the guideline at a specific organics recycling facility will be subject to these processes.

Implementation will support the Waste Strategy 2030 target of all waste being managed by and/or disposed of to better practice facilities by 2030. We will work with organics recycling facilities to achieve better practice before the 2030 timeframe. We are currently exploring opportunities to support implementation.

Summary of changes made to the guideline

We have removed Section 6 'Implementation' and Appendix A of the draft guideline.

The 'Document implementation' section now provides a high-level overview of the implementation process. We are planning to publish the procedure in 2022. This will include tools and guideline implementation details using an outcome-focused risk-based approach.

Additional amendments to Section 6 'Achieving better practice' in the guideline help clarify the approach to implementation.

3.10 Other matters

3.10.1 Summary of submissions

This section refers to submissions about other concerns raised during the consultation process. Key concerns with the draft guideline related to:

- a recommendation that further discussion occurs with industry about what matters would affect the frequency of specific actions, such as monitoring



- the view that some recordkeeping and reporting requirements were overly prescriptive or not explicit enough
- recommendations and concerns about some of the terms defined, or not defined in the Glossary.

3.10.2 Department response to submissions

We appreciate the recommendation to consult on the frequency of actions and supports a collaborative approach with the organics recycling industry. The frequency of any action depends on the site-specific circumstances and risk profile of the premises. The frequency of an action set via benchmark controls or conditions of a licence does not limit operators proactively implementing better controls.

The frequency of any action that we specify in a licence for a specific facility will be informed by the risk assessment and consultation processes. The frequency of any actions will be proportionate to the risk they help control.

Where a benchmark control in the guideline specifies a frequency for an action; for example, six-monthly groundwater monitoring, operators have the opportunity to propose an alternative frequency where they can justify the relevant EPO will still be achieved. Conversely, higher frequencies may be justified for higher-risk situations.

The recordkeeping and reporting section is general in nature and relates to other EPO sections where specific requirements for validating the effectiveness of certain benchmark controls is appropriate. The frequency and specification in any recordkeeping and reporting requirement will depend on the type of benchmark control and the level of risk being mitigated. Good data supports sound, transparent and evidence-based decision-making for both operators and regulators.

Terms used in the Glossary are aligned with definitions in legislation or existing publications in our regulatory framework, where relevant. We agreed with several recommendations to update terms in the Glossary.

Summary of changes made to the guideline

In the guideline we have:

- Amended Section 18 'Recordkeeping and reporting' to expand the scope of general matters that may be relevant. Reporting requirements specific to a certain EPO are listed under the corresponding benchmark controls.
- Introduced terms to the Glossary including the types of organics recycling (e.g. aerated static pile), key concepts in the guideline (e.g. benchmark control) and a definition of the term 'regular'.

3.11 Department-initiated changes

We have made several improvements to the guideline for matters not explicitly raised during the consultation process. These improvements:

- better explain our expectations of the outcome met by achieving an EPO and how benchmark and alternative controls are addressed effectively



- better frame the level of risk acceptance in the guideline
- improve the structure and framing of concepts and information in the guideline.

These improvements on the draft guideline make the guideline clearer and support an effective implementation process. See below for examples of the main improvements.

We note that while the number of benchmark controls, and content explaining them, has increased, the implementation of all of benchmark controls may not be necessary to achieve the EPOs at some organics recycling facilities and alternative controls may be used.

Summary of changes made to the guideline

We appreciate the general support for the outcome-focused approach of the EPO concept and note there was some inconsistency in the wording of the EPOs in the draft guideline. After reviewing the submissions, we found that the EPOs should be more clearly aligned with the purpose of instruments issued under Pt V Division 3 of the EP Act. This includes explicitly framing the outcomes for EPOs within the better practice context of supporting a 'circular economy in which human health and the environment are protected from the impacts of waste' (Waste Strategy 2030).

We have simplified the EPO for feedstocks to require that organics recycling is done with feedstocks that have a beneficial outcome for product quality. This approach acknowledges there is more than one way a feedstock can provide benefits to product quality, as explained in the 'Overview and objective of Section 8.1 Feedstocks'. We have removed the reference to products being fit-for-purpose from the EPO for feedstocks, as this is adequately addressed under the EPO for product quality.

We have amended the guideline to explicitly set out that the benchmark controls are established for low to medium-risk organics recycling facilities and that higher-risk operations may require controls beyond those set by the guideline. This is consistent with and clarifies the approach taken in the draft guideline. This level of risk acceptance is supported by amendments to Section 7 'Environmental siting' and how the benchmark controls are framed in other sections of the guideline.

The following is a summary of additional or amended benchmark controls that better explain our expectations for operators to achieve some of the EPOs.

- EPO – Feedstocks:
 - wastes not suitable for organics recycling include waste streams with an unknown origin or composition.
- EPO – Emissions to land and water:
 - clearer definition of types of potential emissions to land and water
 - a set of planning benchmark controls, including a new benchmark control that outlines the role of construction quality assurance (CQA)



- references to relevant Australian Standards and liner specifications in the infrastructure and equipment benchmark controls.
- EPO – Odour:
 - amendments to the benchmark control relating to requirements for enclosed structures used for aerobic composting of high-risk feedstocks (now applies to enclosed structures used for vermiculture or storage and pre-composting screening/picking of high-risk feedstocks)
 - more detailed requirements for the testing, maintenance and servicing of odour-treatment systems.
- EPO – Point source emissions to air:
 - added an emission standard for sulfur dioxide to complement the emissions standards for nitrogen oxides, carbon monoxide and total volatile organic carbons – source is the UK Environment Agency (2012).
- EPO – Fire prevention and management:
 - expanded requirements for a Fire and emergency management plan (FEMP), with reference to relevant Australian Standards and guidelines
 - added effective fire water containment capacity within the premises
 - added mitigate fire and explosion risks in anaerobic digestion systems.
- EPO – Product quality:
 - amended the contaminant upper limits and product testing requirements to include viable plant propagules for all products, and *Escherichia coli* for products partially or wholly derived from high-risk feedstocks
 - provided additional guidance on the information required to support a fit-for-purpose product specification for Category B products.

3.12 Out of scope

3.12.1 Summary of submissions

We considered that some submissions were outside the scope of the guideline but provided important perspectives. These submissions related to:

- extensions to the consultation process, regarding the use of alternative controls and benchmark controls for feedstocks and compost quality
- new technologies, regarding the role of the guideline to address new and innovative approaches within the composting industry
- cost implications, regarding the financial implications for business to implement changes at organics recycling facilities
- funding for implementation, particularly support for implementing changes at facilities to achieve better practice



- use of the guideline in development approvals (i.e. use by local governments) or to support-land use planning outcomes and other matters relevant to the development approval framework
- biosecurity matters relating to feedstocks and restrictions between certain premises and areas
- requesting more information and support for the rollout of FOGO collections and recycling by addressing key issues such as contamination, community education, processing methods, monitoring and transfer arrangements.

3.12.2 Department response to submissions

Extensions to stakeholder consultation

We will consult with the organics recycling industry throughout the implementation process. This is consistent with the approach explained in the 'Document implementation' section of the guideline.

Consistent with the better practice approach, we welcome comments on the guideline and will consider any advice and comments when we review the document. We will review the guideline no later than three years from the date of issue or sooner if required.

New technologies

It is not possible to address all organic recycling methods and types of operations within the guideline. We have based the benchmark controls on common and reasonable requirements that operators can apply to their organics recycling facilities and ensure they achieve the EPOs. Where considered reasonable, benchmark controls have addressed different types of organics recycling methods.

The approach to alternative controls provides operators with the flexibility to innovate and employ new technologies to achieve the EPOs. Future versions of the guideline may include new and emerging technologies, but these are not being considered at this time.

Cost implications

Issues relating to the costs of service provision and complying with regulatory requirements, or future constraints on an activity because of marketplace limitations, are beyond the scope of the guideline.

We consider that the outcome-focused approach to EPOs and flexible approach to benchmark and alternative controls provides sufficient operational flexibility for individual cost-benefit decisions.



Funding for implementation

Industry funding for the guideline's implementation is not within scope; however, we recognise there are cost implications for some organics recycling facilities.

We will work with the Waste Authority to identify potential funding to support Waste Strategy 2030 commitments.

We will also aim to secure funds for Western Australian organics recycling infrastructure projects as part of the Australian Government's Food Waste for Healthy Soils fund.

Development approval matters

Consideration and application of the guideline in the development approval framework is outside the scope of the guideline and the department's remit. The relevant authorities need to consider whether aspects of the guideline are applicable and appropriate for their regulatory process, for activities within or outside the scope of the guideline.

We consider matters such as amenity impact in the guideline in relation to potential impacts from odour, dust, noise, vectors, litter and debris. Specifying benchmark controls to address development approval matters is not within the scope of the guideline. Visual amenity is generally not within the scope of matters regulated under Pt V Division 3 of the EP Act.

Biosecurity matters

Issues relating to the *Biosecurity and Agriculture Management Act 2007* (BAM Act) are beyond the scope of the guideline. As part of considering the potential impacts of biosecurity matters on the environment and various industry groups, we have referred to the BAM Act in Section 8.1 'Feedstocks' and Section 8.9 'Vectors' of the guideline.

FOGO specific guidance

The scope of the guideline covers organics recycling facilities that process a range of feedstocks. Providing guidance specific to FOGO recycling facilities is outside the scope. The department and Waste Authority have implemented separate initiatives to support the rollout of FOGO collections, such as publication of the FOGO guideline and annual FOGO rollout plans.



Appendix A - Consultation respondents

List of consultation respondents

Australian Organics Recycling Association (AORA) (WA)
City of Kwinana
C-Wise
Department of Biodiversity, Conservation and Attractions (WA)
Department of Agriculture and Fisheries (Qld)
Department of Health (WA)
Department of Mines, Industry Regulation and Safety (WA)
Department of Primary Industries and Regional Development (WA)
Department of Planning, Lands and Heritage (WA)
Eclipse Soils Pty Ltd
Hitachi Zosen Inova Australia Pty Ltd
Bunbury Harvey Regional Council
LMS Energy Pty Ltd
Opam Consulting
Richgro Garden Products
Shire of Serpentine Jarrahdale
Southern Metropolitan Regional Council
SUEZ Australia and New Zealand
Western Australian Local Government Association
Waste Management and Resource Recovery Association Australia
Water Corporation (WA)

Appendix B - Consultation summary for specifications in the benchmark controls

Section / EPO	Submission summary	Department response for benchmark controls
<p>Guideline Section 8.1 Feedstocks (draft guideline Section 17)</p>	<p>View that sewage sludge and biosolids derived from wastewater treatment plants that accept trade waste should be allowed to be accepted as feedstocks because the biosolids guidelines indicate that the lowest quality of biosolids (P4C3) is suitable for use in composting.</p>	<p>The department acknowledges that the draft guideline was inconsistent with guidance in the biosolids guidelines. This waste type has been removed from the list of wastes not to be accepted at organics recycling facilities in the guideline. The department notes that appropriate controls are required to ensure the risks associated with biosolid feedstocks are managed to generate fit-for-purpose products.</p>
	<p>Request for additional explanation on what positive outcomes feedstocks must achieve to justify their addition to the composting process.</p>	<p>The 'Overview and objective' of Section 8.1 in the guideline includes further clarification about the different ways that feedstocks can have a beneficial outcome on product quality. The department will consider the overall quality and characteristics of a feedstock when assessing its suitability but cannot quantify the beneficial outcome given the range and complexity of factors considered.</p>
	<p>View that waste streams presenting a higher risk of perfluoroalkyl and polyfluoroalkyl substances (PFAS) contamination should not be excluded as feedstocks without specifying the amount of PFAS that is not acceptable. Recommendation that reference to PFAS should be removed until the department determines acceptable limits for PFAS in feedstocks and final products because PFAS is ubiquitous in the environment.</p>	<p>PFAS are emerging contaminants of concern and the scientific understanding of public health and environmental risks from exposure to these compounds is still evolving. Section 6.2 'Benchmark controls' in the guideline includes clarification that the benchmark controls in the guideline are based on the department's current understanding of potential risks associated with organics recycling facilities and may change in the future due to developments in scientific knowledge and growth or advances in the industry.</p> <p>Based on the department's current understanding, wastes with significant concentrations of PFAS are not considered suitable for acceptance at organics recycling facilities. There are currently no nationally agreed risk-based criteria for concentrations of PFAS in recycled organic products.</p> <p>The department acknowledges that the draft guideline position that waste streams with a higher risk of PFAS contamination are not suitable feedstocks may have caused uncertainty about the acceptability of some common feedstocks.</p> <p>The guideline has been amended to include a benchmark control that states that waste streams containing elevated concentrations of PFAS compounds are not suitable for organics recycling but clarifies that standard feedstocks are excluded from this description.</p> <p>Non-standard feedstocks will be considered on a case-by-case basis.</p> <p>The department will review its current regulatory position consistent with updates to the PFAS National Environmental Management Plan (Heads of EPA Australia and New Zealand 2020).</p>
	<p>View that the sampling and testing of liquid wastes on receipt to the premises is too onerous and duplicates existing testing by the waste collector.</p>	<p>The requirement for liquid feedstocks to undergo regular sampling and testing has been amended in the guideline to apply to non-standard feedstocks (liquids and solids). The guideline clarifies that the frequency and parameters required for analysis in non-standard feedstocks is dependent on the expected variability in their composition and will be determined on a case-by-case basis.</p>
<p>Guideline Section 8.2 Emissions to land and water (draft guideline Section 12)</p>	<p>Conflicting submissions suggesting the minimum operating freeboard of 500 mm specified for leachate ponds should be lowered to 300 mm and that the 500 mm value is not consistent with levels required in similar industries (e.g. 600 mm for piggeries and 900 mm for cattle feedlots).</p>	<p>The benchmark control is generally considered reasonable and appropriate to minimise the risk of ponds overflowing based on the scope of the guideline. The benchmark control was retained in the guideline with minor rewording to not just apply to ponds storing leachate, but also to ponds storing liquid feedstocks and liquid wastes.</p>

Section / EPO	Submission summary	Department response for benchmark controls
Guideline Section 8.2 Emissions to land and water (draft guideline Section 12)	View that a hardstand grading of 2 to 4 per cent is excessive, inconsistent with the biosolids guidelines, difficult to achieve on flat ground and a shallower gradient is adequate for runoff and to prevent pooling of leachate.	The benchmark control has been amended to be more outcome focused. The department considers that the grading required will be dependent on site-specific circumstances but considers that a benchmark gradient of 2 per cent is suitable. Guidance about slope gradients in the biosolids guidelines aims to prevent soil erosion on bare ground and does not contradict guidance in the guideline that is focused on preventing pooling on hardstand surfaces.
<i>Continued</i>	View that the specifications for different types of hardstand barriers and pond liners are overly prescriptive, ambiguous, do not provide equivalent protection between different barrier/liner types and do not align with benchmark controls of other industries that function similarly to composting facilities (e.g. intensive livestock facilities). Recommendation for an outcome-based approach instead.	<p>The specifications for hardstand barriers and pond liners have been amended to:</p> <ul style="list-style-type: none"> clarify and refine the specifications for different liner types, including addition of references to appropriate Australian and international standards remove the specification for a 600 mm clay or modified soil hardstand barrier with a permeability of 1×10^{-8} m/s as this would not provide an equivalent standard to a 300 mm clay or modified soil hardstand barrier with a permeability of 1×10^{-9} m/s remove the prescribed thickness for a concrete, asphalt cement or bitumen hardstand barrier to provide a more outcome-based approach require that the specifications and construction methods for hardstand barriers and pond liners are verified and documented in accordance with the CQA plan by a suitably qualified person. <p>The amended specifications are considered reasonable and appropriate for the guideline scope.</p>
	View that the requirement for at least three groundwater monitoring bores is too prescriptive, not risk-based and does not account for site-specific circumstances.	The department will consider the requirements for groundwater monitoring on a site-specific basis. The benchmark control is considered reasonable and appropriate based on the scope of the guideline and considering the siting factors and separation distances in Section 7 'Environmental siting'. In some circumstances this benchmark control may not be required or alternative controls may be suitable. The benchmark control has been retained with minor rewording.
	Clarity sought on what integrity testing would be required for infrastructure used to store high-risk feedstocks and the view that monitoring requirements for hardstand surfaces should be included in the guideline.	<p>The department considers it would not be appropriate to specify a detailed leachate containment system integrity testing regime within the guideline, as the nature of such a regime should be risk-based and dependent on the site-specific circumstances. The benchmark controls relating to inspections and integrity testing of the leachate containment system have been retained as both are considered important measures to ensure ongoing integrity of infrastructure.</p> <p>The monitoring requirements for the leachate containment system have been amended to clarify in what circumstances monitoring is required and to provide examples of different types of integrity testing.</p>
	View that leachates generated from high-risk feedstocks should be segregated to ensure they do not mix with other leachates and that each leachate type can be reused over the same feedstock material.	Benchmark controls have been added to Section 8.10 "Product quality to address potential risks of cross-contamination between processing streams using different types of feedstocks. The guideline clarifies that the reuse of leachate is acceptable with some limitations to prevent cross-contamination between different product streams or recontamination of pasteurised material.
	Conflicting submissions suggesting the approach to leachate and stormwater management should be more or less stringent. There was a suggestion that all areas of the premises where there is a risk of waste seepage or infiltration have impermeable surfaces, not just processing areas. Others suggested that leachate containment was not needed for some feedstocks and finished products.	The department considers that finished products and most feedstocks have the potential to contribute contaminants to leachate and stormwater. The approach to leachate and stormwater management in the guideline is risk-based and the relevant benchmark controls are considered reasonable and appropriate to prevent and minimise emissions. In some circumstances these benchmark controls may not be required or alternative controls may be suitable.

Section / EPO	Submission summary	Department response for benchmark controls
Guideline Section 8.2 Emissions to land and water (draft guideline Section 12) <i>Continued</i>	Clarity sought on the two different approaches used to size capacity of the leachate ponds including specific comments about some of the inputs to the water balance process.	The requirement for the leachate containment system design to be informed by a month-to-month water balance based on at least two consecutive 90 th -percentile rainfall years has been amended to only apply to organics recycling facilities accepting liquid feedstocks. The department considers that the benchmark control in the draft guideline was overly conservative for low to medium-risk facilities that only accept solid feedstocks and meet the siting factors and separation distances in Section 7 'Environmental siting'. Designing the leachate containment system for these facilities to accommodate the runoff from a specified storm event provides a suitable risk-based approach. Guidance on the different components of a water balance is in Appendix B of the guideline. Guidance on determining the runoff coefficient has been amended; however, no further information is provided to estimate leachate generation rates as this would vary significantly between facilities.
Guideline Section 8.3 Odour (draft guideline Section 15)	View that the C:N nutrient ratio is too prescriptive and not reasonable.	The benchmark control has been edited to focus more on the outcome of odour mitigation and remove a prescribed C:N nutrient ratio.
	View that the terms 'enclosed structure' and 'in-vessel' need better definition.	A definition of 'in-vessel' has been added to the Glossary. The term 'enclosed structure' is considered sufficiently clear. An enclosed structure may be managed under negative pressure or a closed-loop system. A cover such as a geomembrane or outer layer of finished compost is not an enclosed structure.
	Comments on variations between different composting facility infrastructure and operations including suggestions where actions are required or odour may not be relevant.	The variations were considered site-specific matters that are adequately addressed by the approach to benchmark/alternative controls in achieving EPOs.
	View that the control of not allowing leachate to pool on hardstands is excessive and not practical.	The benchmark control is considered reasonable and practicable to achieve the EPO. Stagnant leachate can generate odour emissions and cause anaerobic conditions in stockpiles and windrows that contribute to offensive odour generation.
	View that site-specific topography, meteorological conditions and cumulative odours need to be considered in the guideline during screening assessments and ongoing and regular odour monitoring should be required.	While relevant to assessing odour risks, these specific matters are not within scope of the guideline. Site-specific matters and screening assessments for odour emissions are addressed in the department's Guideline: Odour emissions (DWER 2019c). Regular and ongoing monitoring of odour emissions is not typically necessary for low- to medium-risk organics recycling facilities but may be required at higher-risk facilities on a case-by-case basis.
Guideline Section 8.4: Point source emissions to air (draft guideline Section 8)	Views that the specifications of some benchmark controls were too restrictive or specific, including references to emission standards, flare management specifications, hydrogen sulfide scrubbers and that requirements for more detailed analysis of emissions to air are needed.	The benchmark controls are considered reasonable and appropriate for the scope of the guideline. Anaerobic digestion plants are relatively common in the United Kingdom and as such their regulatory guidance for this activity is further developed compared with Australia. The emissions standards in the draft guideline were based on United Kingdom standards (UK Environment Agency 2010 and 2012) and have been retained in the guideline because of the absence of published Australian national standards for anaerobic digestion plants. Benchmark controls regarding flare and hydrogen sulfide management have been amended to be more outcome-focused. DWER emission guidelines are proposed to address the detailed analysis of emissions to air in more detail.
	View that the emission to air EPO is not required and that matters are covered by the dust and odour EPOs.	The benchmark control section has been amended to clarify that the controls are for facilities that combust biogas.

Section / EPO	Submission summary	Department response for benchmark controls
<p>Guideline Section 8.5: Dust (draft guideline Section 9)</p>	<p>View that the specifications of some benchmark controls were excessive or not necessary for all composting facilities. Examples included requirements for fencing, water carts, sprinkler systems, truck washes and road treatments.</p>	<p>The benchmark controls are generally considered reasonable and appropriate for the scope of the guideline. The controls have mostly been maintained with minor edits to help frame the approach to benchmark and alternative controls with the focus remaining on the EPO outcome.</p> <p>The requirement for materials to be wet down before processing in dust-generating equipment has been removed.</p>
	<p>Recommendation that maintaining specific stockpile and windrow moisture content levels were not necessary for dust control.</p>	<p>The benchmark controls for specified moisture levels to achieve the EPO for dust have been removed as the remaining controls are considered adequate to achieve the EPO.</p>
	<p>Suggestion that the guideline should prescribe maximum levels of dust.</p>	<p>DWER emission guidelines are proposed and will provide guidance on dust criteria and site-specific trigger levels.</p>
	<p>Recommendation that the term 'strong winds' should be defined and the use of features for shielding from winds is site-specific.</p>	<p>Specific controls to achieve the EPO need to be considered on a case-by-case basis, including how different wind patterns impact operations. The benchmark control has been amended to clarify that the requirement to suspend or limit certain activities applies when visible dust is generated by strong winds or blown in the direction of nearby sensitive receptors.</p>
	<p>View that the benchmark controls for bioaerosol controls were not clear and considered out of place.</p>	<p>The two benchmark controls comprising pasteurisation requirements to mitigate bioaerosol risk have been removed as the general dust controls in this section are considered adequate to mitigate the risk of bioaerosol emissions during processing and the controls in Section 8.10 <i>Product quality</i> are considered appropriate to mitigate the risk of bioaerosol emissions from products.</p>
<p>Guideline Section 8.6: Noise (draft guideline Section 14)</p>	<p>View that the role of environmental siting separation distances in mitigating impacts from emissions of noise is adequate without additional benchmark controls.</p>	<p>The role of environmental siting is important to mitigate impacts to receptors from emissions but the environmental siting factors and separation distances are not considered to be adequate controls in isolation. The benchmark controls for the noise EPO are considered reasonable and appropriate.</p>
	<p>View that the requirement for mufflers and low-tonal reversing beepers (croakers) is excessive.</p>	<p>The benchmark control is considered reasonable and practicable to achieve the EPO. In some situations this control may not be required or alternative controls are available. Further information is available in <i>Audible reversing alarms: considerations for use</i> (DMIRS and DWER 2019).</p>
<p>Guideline Section 8.7: Emissions of litter and debris (draft guideline Section 13)</p>	<p>View that the specifications of some benchmark controls were too restrictive or specific, including requirements to cover waste bins, cover transported materials and frequency of fence inspections.</p>	<p>The benchmark controls are generally considered reasonable and appropriate for the scope of the guideline. The controls have been maintained except the requirement to cover transported materials coming into facilities as this activity is not necessarily under the control of the operator.</p>

Section / EPO	Submission summary	Department response for benchmark controls
<p>Guideline Section 8.8: Fire prevention and management (draft guideline Section 11)</p>	<p>Numerous comments were about:</p> <ul style="list-style-type: none"> the 6 m separation distance between stockpiles and windrows being excessive the approach to windrow dimensions requiring clarification, allowing excessive windrow sizes or being overly restrictive. <p>Suggestions that the term 'combustible' be defined or separation and size requirements be specified for particular stockpile/windrow material types.</p>	<p>The controls on stockpile dimension and separation distances have been included because they relate to fire risk and the management of fire incidents. The purpose of these benchmark controls is to reduce the likelihood of fires igniting, limit the potential for fires to spread and ensure there is adequate access to implement fire response measures.</p> <p>In setting these benchmark controls, consideration was given to fire prevention and management controls for waste facilities and stockpiles presented by other jurisdictions (see References in this consultation summary), guidance published by DFES including Information note: Bulk green waste storage fires (DFES 2014) and Guidance note: GN04 Fire prevention and management in a materials recycling facility (DFES 2021), and expertise from the department's Pollution Response Branch. These sources indicate that the benchmark controls are reasonable and the department considers them appropriate for application to a typical organics recycling facility. The department acknowledges that different site conditions, material types and organics recycling processes can result in different levels of fire risk.</p> <p>The controls on stockpile dimensions and separation distances from the draft guideline have been retained in the guideline. A simplified approach to the benchmark controls (i.e. through the FEMP) was considered the clearest and most effective approach for the purpose of the guideline. Alternative controls may be suitable at specific sites, including alternative dimensions or separation distances for different types of stockpiles and windrows with consideration of other available fire prevention and mitigation controls.</p> <p>Clarification is provided on materials considered to be combustible.</p>
	<p>View that the requirements to report fire events are not clear and are excessive.</p>	<p>The meaning of a reportable fire incident has been clarified. The reporting requirements for a fire incident will be site-specific (risk dependent) and could be annual or for each specific incident.</p>
	<p>View that the fence security measures are unreasonable and unnecessary.</p>	<p>The benchmark control is considered reasonable and alternative specifications (controls) can be considered in a site-specific context.</p>
	<p>View that maximum temperature and moisture content controls are too prescriptive and may increase the fire risk.</p>	<p>The maximum stockpile/windrow temperature has been increased to 75°C, supported by other controls. The moisture content range of 20–45% is noted to present a higher risk for fires in stockpiled organic materials and therefore moisture requirements have been amended accordingly.</p>
	<p>Request to clarify various aspects including access requirements for fire trucks and physical barrier requirements between indoor and outdoor stockpiles.</p>	<p>The benchmark controls have been clarified, for example fire trucks only require access to areas where a fire might occur consistent with the FEMP and the approach to physical barriers is the same for indoor and outdoor organics recycling facilities.</p>
	<p>View that there may be potential overlap between the guideline and planning and management for bushfire prone areas.</p>	<p>The guideline does not replace any planning requirements for bushfire prone areas. A note has been added to address this. The FEMP requirements have been amended to ensure consideration of whether a facility is in a bushfire prone area.</p>
	<p>Suggestion that fugitive emissions of biogas should be minimised in line with best international practice to avoid fires and explosions.</p>	<p>A benchmark control has been added to ensure that anaerobic digestion systems are designed and maintained to minimise fugitive biogas emissions and mitigate potential fire and explosion risk.</p>

Section / EPO	Submission summary	Department response for benchmark controls
Guideline Section 8.8: Fire prevention and management (draft guideline Section 11) <i>Continued</i>	Request to clarify which agency is responsible for reviewing the FEMP.	Operators will be required to submit FEMPs to the department, for example to support an application or as part of a self-assessment process. The department will review the FEMP and may seek comment or advice from stakeholders such as DFES and local government authorities in some circumstances.
Guideline Section 8.9: Vectors (draft guideline Section 16)	Views that regular turning of feedstocks is excessive, not applicable to some feedstocks and/or that high-risk feedstocks should be managed through enclosed treatments before adding to the composting process.	The benchmark control has been amended to be more outcome-focused, identifying enclosure, treatment and turning as options to mitigate vector risks depending on the relevant factors such as feedstock type.
	Recommendation to include vector/pest control programs as a benchmark control.	The EPO is focused on prevention and protection. Vermin control programs may be appropriate on a site-specific basis but are not considered necessary as a benchmark control.
Guideline Section 8.10 Product quality (draft guideline Section 18)	View that the process criteria to achieve pasteurisation are too restrictive and do not allow for alternative processes. The application of different process criteria for different processing methods is also not clearly defined.	<p>The time/temperature ratios presented in Table 9 in the draft guideline are based on United States Environmental Protection Agency guidance (US EPA 2003) and are already in common use to achieve pasteurisation at organics recycling facilities. The benchmark control requiring pasteurisation to be achieved has been amended to allow alternative processes that guarantee the same level of pathogen reduction as traditional methods.</p> <p>The table presenting time/temperature ratios to achieve pasteurisation in the guideline (Table 10) has been amended to include additional criteria for aerated static piles, consistent with US EPA guidance.</p> <p>Definitions for 'in-vessel composting', 'windrow composting' and 'aerated static pile' have been added to the Glossary.</p>
	Recommendation that products containing treated septage should meet P1C1 standards specified in the WA biosolids guidelines. View that the guideline should follow the contaminant upper limits listed in the biosolids guidelines and clarify whether operators follow contaminant upper limits from AS 4454 or the biosolids guidelines for chromium (VI), copper, zinc, lead, selenium and pathogens.	<p>This recommendation has been adopted and the chemical and pathogen upper limits for P1C1 biosolids have also been applied to products that contain treated septage.</p> <p>The upper contaminant limits in the guideline have been amended to adopt the following upper limits from the biosolids guidelines:</p> <ul style="list-style-type: none"> • chromium (VI), selenium, somatic coliphages and strongyloides and hookworm (viable ova) for products containing biosolids, sewage sludge or treated septage • <i>E. coli</i> for products that contain high-risk feedstocks • copper and zinc for all products – these upper limits are consistent with those from Table 3.1(C) in AS 4454 for products that do not require a warning label about these parameters. <p>The upper limit for lead from AS 4454 has been retained for application to all products as it is more conservative than the upper limit in the biosolids guidelines.</p>
	View that National Association of Testing Authorities (NATA) accredited testing is excessive and onerous on the operator when in-house or non-accredited laboratories can conduct testing in accordance with AS 4454.	The requirement for NATA-accredited testing has been retained to ensure that laboratories conducting product quality analysis are technically competent in the analysis as verified by a third-party accreditor. The requirement for analysis to be conducted by a NATA-accredited laboratory is consistent with the department's general regulatory approach for monitoring conditioned by Pt V instruments and helps to ensure that monitoring data collected under these instruments is reliable.

Section / EPO	Submission summary	Department response for benchmark controls
Guideline Section 8.10 Product quality (draft guideline Section 18)	Comment that the requirement to report product specification testing results annually is new and the view that this presents an increase in annual environmental report workload.	The requirement to include detailed product quality test results in annual environmental reports has been removed and replaced with a requirement to keep records of this information. Annual reporting conditions will be determined on a site-specific basis and the department may require product quality test results to be provided in annual environmental reports or as part of compliance investigations and inspections.
<i>Continued</i>	View that the draft guideline's reference to current standards limits any future improvements and updated standards. The guideline should recognise other relevant standards and specifically allow for the use of future approved interstate or international standards.	The department considers that it would be inappropriate to indicate support for new or amended standards without first reviewing and understanding the content of such documents. The department will review the guideline in the future and where appropriate can make revisions to reference new or amended standards and guidelines. The benchmark controls for product quality allow operators to propose to meet different standards within a fit-for-purpose product specification that the department would assess on a case-by-case basis. Section 6.2 'Benchmark controls' includes clarification that benchmark controls may be adapted in the future to address developments in scientific knowledge or growth and advances in the organics recycling industry.
	View that products awaiting analytical results or that do not comply with the product specification should be able to leave the premises if the buyer is made aware.	The requirement for products to remain on the premises until the results of sampling and testing have been finalised has been retained. The revised product sampling regime means that some batches may not be required to undergo sampling. However, for those batches that are sampled it is considered appropriate that the product remains on the premises until its compliance with the product specification is verified by laboratory results. This will ensure that any contamination identified by the laboratory analysis can be rectified before the product is distributed offsite. Products that do not meet the product specification may not be suitable for offsite distribution because they have the potential to cause pollution or environmental harm when used.
	View that the requirement to undertake an assessment of potential risks to humans and the environment as part of a product specification is unnecessary given the existing practice of generating material safety data sheets for products.	A risk assessment is necessary to identify potential risks from the use of recycled organic products and determine what controls are needed to mitigate these risks. Safety data sheets provide a practical tool to help customers use products appropriately and should be informed by the risk assessment.



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