

# Contaminated soil – treatment and disposal



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In anticipation of contaminated soil treatment facilities operating in Victoria, the Environment Protection Authority Victoria (EPA) has released this draft position statement. The statement focuses on offsite treatment and landfilling options for contaminated soils that cannot remain at the site of origin, and the obligation on generators of waste contaminated soils to consider regulation 9 of the *Environment Protection (Industrial Waste Resource) Regulations 2009* (Regulations).

## EPA position

As at early 2015, there is very limited capacity to treat contaminated soils in Victoria. However, several treatment facilities are currently being constructed and are expected to be operating within the next 3 to 6 months. These facilities primarily focus on thermal treatment to destroy or remove organic contaminants within soil.

Regulation 9 of the Regulations requires a prescribed industrial waste (PIW) producer to first determine that technology and facilities are not practicably accessible to treat or reprocess a waste before considering landfilling options for the waste.

EPA's position is that a contaminated soil producer must be able to demonstrate how it has assessed the practicable accessibility of treatment before it decides to consign the material to landfill for disposal or immobilisation. This assessment requires the consideration of a range of factors – technical, financial and logistical – as outlined further below.

Where the assessment finds that treatment is practicably accessible, the soil must be treated, as opposed to being landfilled or immobilised prior to landfilling. Under section 55(3)(a) of the *Environment Protection Act 1970*, EPA can request a PIW producer to provide documents demonstrating that such assessment has been performed.

When treatment capacity increases and if contaminated soils are not being managed in accordance with the Regulations, EPA may consider further regulatory measures to ensure that these soils are treated to destroy or remove organic contaminants. One option open to EPA is to amend licences to prevent immobilisation (in which the contaminants are not destroyed or removed) and/or landfilling.

These regulatory measures would only apply to soils that meet the practicable accessibility criteria. They would not apply to category C soils or higher categories if triggered by contaminants that cannot be destroyed or removed with available technologies.

Once thermal treatment facilities are operating, storing category A contaminated soil pending availability of treatment — as per EPA's guidelines on *Soil hazard categorisation and management* (EPA publication IWRG 621) — will no longer be an option if the contaminants

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contributing to this hazard category can be removed or destroyed, thereby resulting in a lower (less strict) hazard category. If soils are co-contaminated (for example, with heavy metals), the final hazard category will be based on the remaining contaminant levels in the soil.

## Relevant Regulatory background

There have been a number of regulatory changes affecting the classification of soils since 2002 some of which provide relevant context. These are outlined below.

In 2002, EPA classified soils contaminated with total petroleum hydrocarbons, monocyclic aromatic hydrocarbons, organochlorine compounds and polycyclic aromatic hydrocarbons as 'wastes with the potential for reuse, recycling, recovery of energy and treatment': see the Prescribed Industrial Waste Classification (classification made pursuant to clause 11 of the *Industrial Waste Management Policy (Prescribed Industrial Waste) 2000* and gazetted in the Victorian Government Gazette<sup>1</sup>. The supporting EPA publication 878 *Classification for contaminated soil* noted that EPA intended to implement the classification by ultimately amending landfill licences to prohibit the acceptance of contaminated soils once one or more soil treatment facilities became available.

At the time the classification was made, the current PIW hazard categories A, B and C did not exist. However, the classification referred to 'contaminated soil' (which generally corresponds to the current category A and B waste hazard categories) but not 'low-hazard contaminated soils' (which are the equivalent of the category C waste hazard category).

To clarify, the contaminants listed in the classification correspond to current 'organic species' and 'pesticides' listed in EPA's guidelines on *Soil hazard categorisation and*

<sup>1</sup> Victorian Government Gazette, G44, 31 October 2002, p2923

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*management* (EPA publication IWRG 621). These have been collectively referred to as ‘organic contaminants’ for the purpose of this document.

In 2007, EPA introduced the current waste hazard categories A, B and C, with category A waste effectively banned from landfill by way of subsequent licence amendments. Category A waste therefore requires treatment to reduce or control the hazard before being acceptable for disposal at an EPA licensed facility.

In 2009, the Regulations came into effect. As stated above, regulation 9 requires a PIW producer to assess waste for treatment and reprocessing opportunities, before the waste is able to be disposed of at a landfill, against the following tests:

- a) Available — the prescribed industrial waste can be treated or reprocessed to reduce the requirement for residual management, and technology and facilities necessary to realise this potential are practicably accessible
- b) Not available — the prescribed industrial waste cannot be treated or reprocessed to reduce the requirement for residual management, or technology and facilities necessary to realise this potential are not practicably accessible.

‘Practicably accessible’ is defined in the Regulations as meaning that ‘having regard to the location of the premises and the scale of the business conducted by the prescribed industrial waste producer and the financial viability of that business, the technology and facilities are reasonably available and reasonably affordable’. Further guidance on the meaning of ‘practicable’ is provided in EPA’s guideline: *Applying the environment protection principles in waste management regulation* (EPA publication 1360) and is

reproduced as follows:

In assessing whether an option is practicable, the following issues may be considered and factored into a cost–benefit decision-making approach:

- Practicability does not mean that the option is the lowest cost option. A preferable option that costs more may still be practicable.
- The expectation regarding the level of expenditure that is practicable will increase as the hazard of the waste increases.
- Practicability will generally be considered in terms of what is ‘affordable’ in the context of the relevant industry sector, rather than what may be affordable for the individual business.
- Logistical considerations include issues of location of the waste and facilities, and the quantity of waste.
- Technical considerations include a wide range of issues that may render an option unable to be adopted, or which may increase the cost of adoption

Examples of how to assess ‘Practicable accessibility’ are set out in Table 1 below.

Until now there have been very limited options available for treating contaminated soil to remove or destroy the contaminants. Furthermore, there is currently only one facility in Victoria licensed to accept category B soil for disposal and there are limited options to reduce the hazard of category A soil prior to disposal.

However, EPA notes that soil treatment facilities are being constructed and will become operationally available during 2015. These facilities primarily focus on thermal treatment to destroy or remove organic contaminants within soil.

**Table 1: Examples of how to assess ‘Practicable accessibility’**

Factors to assess	Examples of how to assess
<b>Technical</b>	Can the contaminants be removed or destroyed at existing treatment facilities, leading to a lower hazard category or fill material? For example category A to category C, or category B to fill material.
<b>Logistical</b>	Where are existing treatment facilities located compared to landfills? Is the method/distance of transport comparable?
<b>Financial</b>	Have quotes been obtained from existing treatment facilities and landfills? Having regard to the cost–benefit criteria outlined in publication 1360, is treatment reasonably affordable compared to landfilling?