



# ***Managing Landfills***

Tabled 3 September 2014



## Background

- Landfills—part of waste management system.
- Victoria has over 107 active sites and 245 closed landfill sites.

## Background – *continued*

Landfills require better practice management across lifecycle:

### **Design and construction**

Minimise the risks to acceptable levels of noise, dust, extracted material and contaminated water.



### **Receiving waste—active landfills**

Minimise the risks of gas generation, surface and ground water contamination, unpleasant odours and litter.



### **No longer receiving waste—closed landfills**

Minimise the risks to gas and water.  
Rehabilitate site to allow safe future use.



## Background – *continued*

4

### EPA regulates landfills

pages  
1–11

*Environment  
Protection Act*

Policies

Approvals

Licensing

Best practice  
guidelines

Local government own and manage landfills.

## Audit objective

5

page  
10

Determine whether:

- Landfill design, management and rehabilitation manages risks to environment, human health and amenity.
- Regulatory framework effectively administered and overseen.
- Landfills managed in accordance with the framework.



## Audit scope

- ✓ EPA.
- ✓ Four councils:
  - Ballarat
  - East Gippsland
  - Hume
  - Wyndham.
- ✓ Remaining councils:
  - Questionnaire to other 75 councils—  
83 per cent response rate.



## Overall conclusion

Improved oversight and management of major long-term landfill risks, but further work needed to oversee and manage localised and short-term risks to the environment and local amenity.





## Conclusions – councils' management of landfill risks

- Improved identification and management of landfill risks.
- Not yet meeting all landfill responsibilities and obligations.
- Have not fully understood all responsibilities.
- Poor in prioritising actions and slow in addressing more moderate but complex risks.



## Findings – councils' management of landfill risks

9

pages  
15–22

### Active landfills—councils:

- met EPA's standards for designing and building landfills
- were managing some high gas and contaminated water risks:
  - limited or no long-term environmental impacts to date
- had not effectively prioritised or managed lower- to moderate-localised and short-term environment and amenity risks
  - may escalate if not managed
- were not adequately rehabilitating areas of the landfill no longer receiving waste.

# Findings – councils' management of landfill risks – *continued*

Closed landfills—councils had:

- not identified all their closed landfills
- not adequately assessed, prioritised and managed legacy risks from these sites
- not fully understood their roles and responsibilities
- not adequately budgeted for rehabilitation costs.





## EPA conclusions – oversight of landfill risks

- Improved, risk-based framework and approach for regulating landfills.
- Compliance and enforcement more targeted, active and transparent.



## EPA conclusions – oversight of landfill risks – *continued*

However, implementation falls short:

- Risk approach not translated into compliance and audit reporting.
- Guidance materials complex, poorly integrated and ambiguous.
- Slow to drive improved management of landfill legacy risks.



## Findings – EPA's oversight of landfill risks

13

Significantly improved regulatory requirements:

Pages  
33–44

- Better practice performance requirements.
- Revised landfill licensing system.
- Annual compliance planning and inspections.

## Findings – EPA's oversight of landfill risks – *continued*

### Reforms are not yet fully effective:

- Audit and compliance reporting priorities not risk based.
- Licence conditions do not address site-specific risks.
- Roles/responsibilities and guidance lack clarity.





## Findings – EPA's oversight of landfill risks – *continued*

15

Pages  
45. 48

### Compliance and enforcement:

- More risk based, targeted, transparent and active.
- Actions to deter noncompliance improved but still inconsistent.
- Reporting framework improved for licensed and high-risk closed landfills, but not all landfills.
- Many unlicensed and closed landfills receive little compliance scrutiny.

# Summary of recommendations

16

Accept

That councils:

- |    |  |   |
|----|--|---|
| 1. | identify, prioritise and address all of their landfill responsibilities and obligations at both active and closed sites  | ✓ |
| 2. | build their landfill knowledge and skills to better work with landfill experts to effectively prioritise and address risks   | ✓ |
| 3. | consolidate the recommendations from environmental audits and reviews and develop and implement risk-based priorities and time lines for addressing them                   | ✓ |
| 4. | improve internal controls over landfill management through their risk and audit systems and inspection processes   | ✓ |
| 5. | work with the EPA and the waste and resource recovery groups to identify closed landfills, assess their risks and prioritise actions at a regional scale to address these. | ✓ |



## Summary of recommendations – *continued*

|           |   | Accept |
|-----------|---|--------|
| That EPA: |   |        |
| 6.        | develops options to use landfill levy to rehabilitate high-risk landfills       | ✓      |
| 7.        | develops a comprehensive landfill strategy and implementation plan              | ✓      |
| 8.        | reviews landfill information to prioritise key noncompliance and emerging risks | ✓      |
| 9.        | reviews licence conditions and develops risk-based conditions                   | ✓      |
| 10.       | implements risk-based compliance and auditing reporting.                        | ✓      |



## Summary of recommendations – *continued*

Accept

That EPA:

- |     |  |   |
|-----|--|---|
| 11. | uses a peer review panel to advise on complex landfill approvals | ✓ |
| 12. | improves landfill guidance                                       | ✓ |
| 13. | strengthens its involvement in land use planning decisions       | ✓ |
| 14. | develops a public register of landfills                          | ✓ |
| 15. | improves its guidance to staff issuing remedial notices.         | ✓ |

## Further comments

- This audit is part of a series of waste audits:
  - *Hazardous Waste Management (2010)*
  - *Municipal Solid Waste Management (2011)*
  - *Contaminated sites management (2012).*
- Findings from these audits contributed to major reforms in waste management.
- Recommendations from this audit will be relevant to other regulators.
- The Auditor-General will follow up actions taken on these recommendations in the next 12–18 months.



## Contact details

For further information on this presentation please contact:

Victorian Auditor-General's Office

[p] 8601 7000

[w] [www.audit.vic.gov.au/about\\_us/contact\\_us.aspx](http://www.audit.vic.gov.au/about_us/contact_us.aspx)

## Photo attributions

*Slide 2: Photo courtesy of Huguette Roe/Shutterstock.com.*

*Slide 3: Top – Photo courtesy of the Environment Protection Authority.*

*Middle – Photo courtesy of Microsoft.*

*Bottom – This closed landfill site has been rehabilitated as a recreation reserve and is surrounded by residential development. Gas and leachate monitoring bores are in place but not visible in this photo. Photo by the Victorian Auditor-General's Office.*

*Slide 5: Photo courtesy of East Gippsland Shire Council.*

*Slide 6: Photo courtesy of Microsoft.*

*Slide 7: Photo courtesy of Pedro Miguel Sousa/ Shutterstock.com.*

*Slide 10: A closed landfill, with development adjacent to the landfill boundary on two sides. Imagery copyright 2014CNES/Astrium, DigitalGlobe, Sinclair Knight Merz & Fugrot. Map data copyright 2014 Google.*

*Slide 14: "Landfill face" by Ashley Felton – Own work. Licensed under Public domain via Wikimedia Commons – [http://commons.wikimedia.org/wiki/File:Landfill\\_face.JPG#mediaviewer/File:Landfill\\_face.JPG](http://commons.wikimedia.org/wiki/File:Landfill_face.JPG#mediaviewer/File:Landfill_face.JPG)*