



ENVIRONMENT PROTECTION ACT 1970
SECTION 31A

POLLUTION ABATEMENT NOTICE

Mr. Bruce Dobson
CITY OF BOROONDARA
8 INGLESBY RD
CAMBERWELL VIC 3124

TO: CITY OF BOROONDARA
ADDRESS: 8 INGLESBY RD, CAMBERWELL VIC 3124
PREMISES: 654-718 Clayton RD, CLAYTON SOUTH VIC 3169

NON-COMPLIANCE OR LIKELY NON-COMPLIANCE: *EP Act 1970 s.41(1)(e)* Pollute atmosphere - detrimental to beneficial use

Who we are: Environment Protection Authority (EPA) Victoria is an independent statutory authority established under the *Environment Protection Act 1970* (the EP Act). Our purpose is to protect and improve our environment by preventing harm to the environment and human health.

Why we serve remedial notices: Remedial notices are served to prevent or remedy a range of non-compliances with the EP Act. These notices are public documents and are publicly available.

What you are required to do: Section 31A(2) of the EP Act requires you to comply with the requirements in this notice with one or more actions to prevent or remedy an actual or likely non-compliance. Under section 60A(1), if someone plans to take control of your premises, you must notify them of this notice and your progress towards compliance.

When you are required to act: 30 days from the date below.

If you want compliance dates extended: An application to extend a compliance date listed in Section 3 of this notice must be received *at least 10 working days prior to the compliance date*. Application forms, available at www.epa.vic.gov.au/business-and-industry/forms must be addressed to the Manager of the EPA office listed on this notice with the subject line: "Notice amendment application". Your served notice remains legally binding until EPA advises of any change. Refer to the Remedial notices policy (publication 1418) for further information on amendment applications.

What happens if you do not comply: If found guilty of contravening a requirement of this notice, you may be ordered to pay a fine of up to 2400 penalty units (approximately \$300,000) and an additional penalty of up to 1200 penalty units for each day the offence continues (approximately \$150,000 a day).

What your review rights are: An application for review of this notice can be made to EPA and/or the Victorian Civil Administrative Tribunal (VCAT). Applications for an EPA review must be made within 7 calendar days from the notice issue date (below). VCAT applications must be made within 21 days of the notice issue date. Application forms for an EPA review are available at www.epa.vic.gov.au/business-and-industry/forms, or from our offices. For more information on your review rights, refer to the Remedial notice review policy (publication 1531) or contact us on 1300 EPA VIC (1300 372 842).

For the purpose of this notice 'You' means the recipient of this notice or your authorised representative and 'Premises' means the site at the premises address, as identified above.

Leigh Bryant

DELEGATE OF THE ENVIRONMENT PROTECTION AUTHORITY

DATE OF ISSUE: 02/07/2015

NOTICE STRUCTURE

1 EPA OBSERVATIONS

This section details what was observed during the inspection.

2 REASONS FOR VIEW FORMED

This section interprets the observations and articulates why the authorised officer believes a non-compliance exists or is likely to exist.

3 REQUIREMENTS - WHAT OUTCOMES ARE REQUIRED TO COMPLY?

Considering the view that has been formed, this section lists the requirements or actions to address the environmental risk(s) or impact(s).

4 AN EXAMPLE OF HOW YOU CAN COMPLY

This section provides an example of how you may achieve compliance with the requirements of this notice.

1 EPA OBSERVATIONS

1.1 Due to a number of odour complaints from nearby residential properties and as part of a strategic approach to landfill gas odours in the Clayton area, EPA Officers attended at the CLAYTON SOUTH premises of Clayton Road Landfill Joint Venture in Clayton Road at 0900 hours on Thursday 21 May 2015. The EPA Officers:

1.2 Obtained methane readings over the landfill surface utilising TDL-500 laser spectrometer.

1.2.1 Obtained methane readings of 400 to 16,000 ppm from the mulch located on the Western batter of the Southern cell. Strong transient landfill gas odours at this location.

1.2.2 Observed landfill gas (LFG) bubbling from pooled water located at the base of the Western batter of the Southern cell, obtained a methane reading of 89,000 ppm from this area. Strong landfill gas odour at this location.

1.2.3 Obtained a methane reading of 3000 ppm from a small orifice in the intermediate cap at gas well T548. Strong landfill gas odour at this location.

1.2.4 Observed landfill gas (LFG) bubbling from pooled water located at the base of the batter along the southern side of the southern cell. The area was approximately 60m long with constant bubbling and a very strong landfill gas odour. Obtained a methane readings along this batter up to 540,000ppm (54% v/v Methane in air) from the cover material and the pooled water.

1.2.5 Obtained methane readings of 17,000 to 435,000 ppm from 6 areas of landfill gas bubbling through pooled water located between the southern cell boundary West of the area observed in 2.2.4 above.

1.3 Undertook monitoring via transects in a west to east orientation commencing at the western boundary of the southern cell. Readings were collected at approximately 10m intervals. Obtained methane readings ranging from 4.6ppm to 13,100 ppm. Thirty-seven (37) methane readings were obtained along the west-east transect. Average methane reading obtained was 529.46 ppm.

1.4 In addition to results presented in 1.2.1 to 1.2.5 above, undertook monitoring via transects along the eastern and southern boundaries of the southern cell commencing at the eastern boundary at the compressor shed. Readings were collected at approximately 10m intervals. Forty-eight (48) methane readings were obtained along the eastern and southern boundary. Average methane reading obtained was 30,745.53 ppm

1.5 Undertook monitoring along the southern perimeter of the stormwater collection pond located between the northern and southern cell. Obtained methane readings ranging from 168ppm to 11,000 ppm. Nine (9) methane readings were obtained. Average methane reading obtained was 3,512.22 ppm. An extremely strong landfill gas odours was noted in this area.

1.6 Obtained gas balance readings on 2 wells at manifold T using a GA-5000. Results obtained were: CH₄ 60 - 68% v/v, CO₂ 30 - 37% v/v, O₂ 0% v/v, Balance 0% v/v. Relative pressure ranged from +8 to +10 mb despite both wells having the control valve fully open with vacuum applied. Leachate observed discharging from orifice plate monitoring points at 5 wells with significant flow.

1.7 Obtained gas balance readings on all wells at manifold U using a GA-5000. Results obtained were very similar to those of manifold T, again significant positive pressure was noted in the wells despite vacuum being applied with the control valves fully open.

No leachate impacts noted at manifold U, observed that all wells connected to manifold U were combined leachate and gas wells.

1.8 Observed landfill gas and fresh waste odours almost continuously throughout the inspection.

1.9 Were informed by a site representative that balancing of the LFG infrastructure is undertaken on a quarterly basis and the concentration from the LFG wells are recorded monthly.

1.10 Undertook monitoring of landfill gas concentrations in the sub-surface geology at the landfill boundary in 3 landfill gas perimeter monitoring bores around the Southern cell. Methane concentrations were found to be between 15 and 80 times the 1% v/v gas action level in EPA publication 788.2 (2014) Siting, Design, Operation and Rehabilitation of Landfills (the BPEM) and Carbon Dioxide concentrations between 6 and 13 times the 1.5% v/v gas action level in the BPEM.

1.11 Observed landfill gas bubbling through standing water and leachate approximately every 2 to 5 metres along the Eastern and Southern batters of the Southern cell

1.12 Observed strong landfill gas odours throughout the inspection.

2 REASONS FOR VIEW FORMED

2.1 Very strong landfill gas odours were observed during the site inspection on 21 May 2015. There is a high likelihood of landfill gas odours discharging beyond the boundaries of the premises. The landfill gas odours were observed to be caused by poor landfill gas and leachate management in the Southern cell.

2.2 High leachate levels within the Southern Cell have caused flooding of the landfill gas extraction infrastructure.

2.3 Balancing the gas field once per quarter is inadequate to ensure that the highest collection efficiency is achieved.

2.4 Significantly more landfill gas is being produced by the waste in the Southern cell than is being, or is able to be extracted from it.

2.5 The Southern cell has a severely reduced landfill gas collection efficiency resulting in average surface emissions of landfill gas 150 times the gas action level in EPA Publication 788.2 (2014) ('the BPEM') along 2 boundaries of the cell, up to a maximum of 2700 times this action level. This is a non compliance with licence condition LI_L5.

2.6 The Southern cell has a severely reduced landfill gas collection efficiency resulting in Methane concentrations in the sub-surface geology at the landfill boundary of between 15 and 80 times the 1% v/v gas action level in the BPEM and Carbon Dioxide concentrations between 6 and 13 times the 1.5% v/v gas action level in the BPEM.

This is a non compliance with licence condition LI_L5.

is likely to cause or has caused pollution of atmosphere in contravention of section 41(1) of the EP Act because the condition of the atmosphere is likely to be changed to make it detrimental to any beneficial use made of the atmosphere.

I have formed the view that this non-compliance, or likely non-compliance, must be remedied. Your remedy must meet the requirements listed in this notice.



.....
Maurice Gubiani
AUTHORISED OFFICER
EPA Southern Metro
EPA Victoria

DATE OF ISSUE: 02/07/2015

3

REQUIREMENTS - WHAT OUTCOMES ARE REQUIRED TO COMPLY?

General Requirements

3.1 From 1 December 2015 you must balance all gas wells in the Southern cell at a minimum frequency of once per month for 12 months.

3.2 For 12 months starting from 7 August 2015 you must record the following parameters for each gas well before and after balancing during each field balancing event :

Relative Pressure

Methane concentration % v/v;

Carbon Dioxide concentration % v/v

Oxygen concentration % v/v;

Balance gas concentration % v/v;

Flowrate in metres cubed per hour (m³/Hr);

Well valve position

Well condition

Presence of leachate, leachate foam or landfill gas condensate

Reporting Requirements

3.4 By 21 August 2016 you must, demonstrate how the requirements in section 3.2 have been met, by providing a report (including all documentation) to the authorised officer listed on page 5 of this notice that:

a) is signed by your managing director, most senior executive, or a person authorised to speak on behalf of the notice recipient.

4**AN EXAMPLE OF HOW YOU CAN COMPLY**

One way of achieving compliance with this notice would be to:

- 4.1 Balance all gas wells monthly to optimise flow and Methane content while minimising ingress of air to the waste mass
- 4.2 Engage a suitably qualified person to undertake the balancing of the landfill gas extraction system within the southern cell on a monthly basis to ensure peak performance is maintained.
- 4.3 Document field readings and any notes related to the balancing works (i.e closed valves, leaking connections, the presence of leachate) to be recorded
- 4.4 Expand the gas extraction system into the Eastern half of the Southern cell
- 4.5 Cover the Eastern and Southern batters of the Southern cell to aid gas extraction collection efficiency but, to avoid further sub-surface migration of landfill gas, do not cover these batters until some function has been returned to the gas extraction system through leachate level reduction.