



THE ODOUR
UNIT *m³*



Veolia Environmental Services (Australia) Pty Limited

Clyde Waste Transfer Terminal

Odour Audit X

Decemeber 2007

THE ODOUR UNIT PTY LTD

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1 INTRODUCTION

The Odour Unit Pty Ltd (TOU) was commissioned by Veolia Environmental Services (Australia) Pty Ltd (VES) to undertake the tenth odour audit on the Clyde Waste Transfer Terminal (CTT) on 7th December 2007.

Eight 3-monthly Odour Audits over a 24-month period have been carried out before this report; this tenth odour audit is the second 6-monthly to be carried out. Odour Audit X for the period May 2007 through to December 2007 was carried out on December 2007 required under the Conditions of Consent – 48(f) outlined below.

48. The Odour Management Plan must address, but is not necessarily limited to, the following issues:

(f) An odour audit program which provides for a comprehensive odour audit of the premises and nearby commercial and residential areas, by an independent, appropriately qualified and experienced person, to be conducted 3-monthly for the initial 24 months of receiving un-containerised waste at the terminal, and 6-monthly thereafter, unless otherwise approved in writing by the Director-General.

Odour Audit X focused on issues relating to general housekeeping, fugitive odour emissions, ground level odour impacts, meteorological monitoring and complaints handling. The approach included a general inspection of the tipping floor and transfer building, container packing area and site access roads; inspection of the complaint register; review of the site meteorological data log and equipment maintenance/calibration; and a field ambient odour survey both on- and off-site.

2 ODOUR AUDIT IX FINDINGS

2.1 General Housekeeping

The CTT site was free of rubbish and generally clean. The containers appeared to be in excellent condition and odour-free. The container packing area was tidy and little odour was present. The waste level in the transfer building on the tipping floor was very low, the waste had only been left uncontained for a short amount of time. All doorways and louvers that could be closed in the building were shut leaving only the main truck entrance and any unsealed breezeways as a possible source of odour emission.

2.2 Fugitive Emissions

Smoke testing was not carried out on the Waste Transfer Building as part of Odour Audit as work to seal breezeways and gaps in the walls have not been completed. The proposed modifications and new extraction system are in the construction process. Once constructed and commissioned, the effect of this system will need to be assessed in future Odour Audits.

At the time of the Audit, the three out of the four extraction systems were operating with the fourth brought offline due to construction works. Additionally, two fans were already decommissioned due to the pending construction of the new extraction system. Fugitive emissions may have potentially been increased under this situation but were unavoidable considering the current transitional circumstances. However, there was no evidence of increased impact downwind of the site as shown the ambient odour survey below.

2.3 Odour Complaints Handling and Meteorological Data

No complaints were received during the period that was covered by the Odour Audit.

A record of meteorological data was logged at 15-minute intervals by an automatic weather station, which was downloaded weekly by the VES CTT Site Manager and

stored on a database. The database had all parameters relevant to dispersion modelling and the assessment of odour impacts. Should the station go offline, data from a Bureau of Meteorology AWS located nearby at Homebush Bay can be acquired as a substitute. The station instruments appeared to be in excellent condition and are properly maintained and calibrated. Weather data calibration reports are attached in **Appendix A**.

2.4 Ambient Odour Assessment

At present, no Australian Standard exists for field based ambient odour assessment surveys. Consequently, The Odour Unit utilises a method for assessing the ground level impacts of odour emissions using a modified version of the German Standard VDI 3940 (1993) – ‘Determination of Odorants in Ambient Air by Field Inspections’.

Field based ambient odour surveys are considered a valuable odour impact assessment tool as previous experience with ambient odour sampling and subsequent olfactometry testing suggests that accurate and useful ambient odour concentration data is difficult to obtain. Therefore, TOU has adopted a more practical approach based on the field measurement of odour intensity. With this method, calibrated and experienced odour specialists traverse the downwind surrounds of odour sources in a strategically mapped pattern, assessing the presence, character and intensity of any odours encountered and recording these observations along with wind speed and direction.

An ambient odour assessment was performed downwind of the Clyde facility on 7/12/2007 (1045 – 1110). TOU assessors firstly determined the wind direction and then assessed downwind locations attempting to cover as much territory as possible, given that the area was essentially private industrial land or rail tracks. This restricted the survey’s assessment locations to the site access roads and the surrounding public roads.

The assessors spent between a few minutes at each assessment location in order to gauge the effects of any odour impact. At each location, wind velocity was measured

using a TSI Model 8345 Velocicalc anemometer, while wind direction was determined using a compass. If an odour was detected at a location, the assessors attempted to characterise it. The general aim was to determine the extent of the impact of odours off-site and rank their intensity. The ranking scale for the German Standard VDI 3940 'Determination of Odorants in Ambient Air by Field Inspections' was used for the intensity assessments. The standard's ranking system is based on the following seven-point intensity scale.

VDI 3940 – Intensity Scale

- 0 Not Detectable
- 1 Very Weak
- 2 Weak
- 3 Distinct
- 4 Strong
- 5 Very Strong
- 6 Extremely Strong

The results of the ambient assessment surveys are depicted in two principal ways. The field log sheets completed by the assessors contain the unprocessed data for each location and the derived result of the survey is illustrated as an odour impact map. The map illustrates the locations assessed, and the level of odour intensity detected downwind of the Clyde facility.

As **Appendix B** illustrates, the characteristic garbage smell was not detected downwind on this occasion.

3 ODOUR AUDIT IX RECOMMENDATIONS

3.1 Assessment of new transfer building extraction system

TOU recommends that once the new transfer building extraction system is commissioned, VES should engage appropriately qualified and experienced personnel to assess the effect of this system, including the use of smoke testing, and assess the potential odour impacts, if any, from the transfer building.



Appendix A

Weather data calibration reports



Appendix B

Field Ambient Odour Assessment

Impact Map and Field Log Sheets