



# ENVIRONMENT TOPICS

## AIR QUALITY MANAGEMENT

### Odour

#### **Introduction**

Odour is the most frequently raised issue regarding air quality in the region. Odour directly affects the amenity values of an area, which are those qualities and characteristics of an area that contribute to people's appreciation.

#### **What is Odour?**

An odour is a property of a substance that has any effect on the sense of smell; it may be either pleasant or unpleasant.

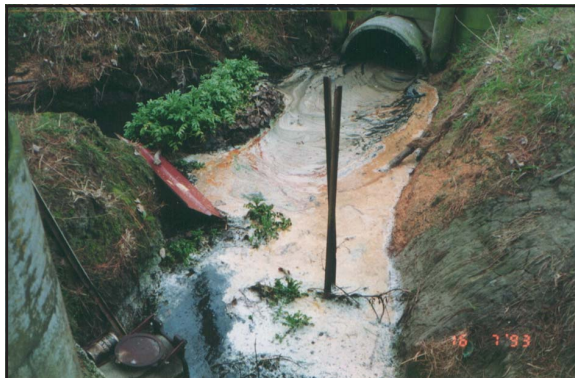
Every person has an individual response to smell, and the pleasantness or otherwise of an odour is often related to its association with a particular activity and the visibility of that activity. These factors make odour a contentious and subjective issue, and difficult to measure.

#### **Sources of Odour**

The main sources of odour in Hawke's Bay are:

- commercial food processing and preparation such as canneries, bakeries, breweries and fast-food outlets

- commercial composting operations
- factory farming practices, such as piggeries and poultry farms
- meatworks and rendering plants
- sewerage and waste water treatment systems, and the spray irrigation of waste onto land
- stockpiling of organic waste on farms, and silage pits
- tanneries
- woollscourers and fellmongeries.



*Compost leachate into a stream.*



*Dumped animal carcasses, and other rubbish.*

### ***Why are we worried?***

Adverse effects occur when odours are perceived to be of such a character, intensity, or duration that they cause annoyance, offence or ill health.

Unpleasant odours can be very offensive and pervasive, significantly affecting the everyday lives of people.

When determining whether or not an odour is a problem, there are several matters that need to be taken into account, including what are known as the FIDOL factors:

- **Frequency** - how often the odour occurs
- **Intensity** - how strong the odour is, i.e. its concentration
- **Duration** - how long the odour is in the air
- **Offensiveness** - how bad (or pleasant) the odour is
- **Location** - where the source of the odour is located.

### ***What is the best way to control Odour?***

Rules in the Council's Regional Air Plan address odour. They generally require that activities do not cause offensive or objectionable odours on neighbouring properties.

Although technology exists for detecting and measuring odours, this can be very expensive and time consuming. The human nose is generally accepted as the best instrument for measuring odours, particularly at low levels.

The Regional Council relies on the noses of its Environmental Officers, which have been "calibrated" using the olfactometry technique, to assess odours. Where an odour issue becomes contentious then the Regional Council can call upon trained members of the public (the "Sniffer Squad"), who have also had their noses calibrated, to carry out an odour assessment.

Various methods and products are available to reduce odours. However, odour management should primarily focus on the following:

1. Planning - problems often arise where incompatible activities are located adjacent to another. For instance, complaints about existing factory farming operations often occur when land uses in the vicinity change, e.g. through the establishment of lifestyle blocks.

2. Design - specialists who deal in odour control methods need to be involved in the design of any new processes, or in the upgrade of any existing processes.

3. Process Control - there are many ways of dealing with odours, some of which are listed below:

- gas collection and control
- gas condensation
- absorption or oxidation reaction
- biofiltration
- incineration
- odour modification
- dilution with air.

4. General Site Management - good housekeeping, maintenance of equipment, and process control are all very important in ensuring that the emission of dispersing odours are minimised from a site.

### ***Other Air Management titles in the Environment Topics series:***

- Agrichemical Spray Drift
- Dust
- Products of Combustion
- Regional Air Plan

#### **For further information:**

Please contact Regional Council Environmental Officers for information or advice on any air issues or to obtain a copy of the Regional Air Plan.

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