

In the Midland area, premises that manufacture bricks and clay tiles are considered to be the second most important source of air quality complaints received by the Department of Environmental Protection (DEP). (Rendering works are the major source of air quality complaints.) As part of a review of Swan Valley brickworks, the DEP has recently conducted a series of targeted interviews. The purpose of the interviews was to collect observations about air quality from people living and working in the Midland region, especially in areas potentially affected by brickworks activities.

This newsletter presents some of the findings from the recent interviews. It also provides an update on how DEP is dealing with air quality issues connected with brick manufacturing in the Swan Valley.

Who did we talk to?

The people we interviewed were mainly people who had previously contacted DEP to express concerns about brickworks impacts on Swan Valley air quality during the period 1994 to 2002. In addition, we invited people to participate in the study via an advertisement in the Midland Reporter in early September. We also interviewed people who contacted us as a result of hearing about the project from others we had interviewed. This phase of the brickworks review was not intended as a statistically rigorous study.

A total of 50 people were invited to contribute information via an interview or by filling in a survey form. Up to the end of October, 33 of the people contacted had participated in an interview or filled in a survey form. Ages of the people participating in the survey ranged from 28 to 76.

Respondents lived or worked in Hazelmere, Viveash, Midland, Midvale, Middle Swan, Woodbridge, Bellevue, Caversham, Herne Hill, Swan View and Bassendean. The people interviewed had lived or worked in the Swan Valley area for periods ranging from 2.5 years to over 40 years. Most of the respondents had lived in the area for a long time – the information provided by participants combines to represent nearly 500 years of observations!

What did we learn?

Offensive odours was the problem most often identified by interview participants. Most of those interviewed said that they experienced offensive odours once a month to more than once a week. Although some people said that they experienced odour all the time, most felt that the odour events

were intermittent, lasting anywhere from about 20 minutes to several hours. This information suggests that the occurrence of odour may relate to the manufacture of particular products, rather than being inherent to all the brick and tile making processes carried out at the brickworks.

About two-thirds of the interviewees reported having experienced physical symptoms which they attributed to air pollution. Those who reported experiencing physical symptoms usually, but not always, reported odour problems. People living in the same household, or in close proximity to each other, did not necessarily report experiencing the same degree of physical discomfort. There appears to be a good deal of individual variation in sensitivity to air borne chemicals and odour.

The areas where people reported the most severe impacts were generally within a one kilometre radius of the brickworks chimneys. However, adverse effects were experienced by some people up to two kilometres away from the inferred source. Some people were able to identify brickworks odours and other distinctive industrial odours at distances as far away as four kilometres from the most likely source.

Most air quality complaints were reported for people's home addresses. Some people reported noticing brickworks odours in places where they shopped or did business, but generally people only lodged formal complaints for locations where they spent a substantial portion of their time. People appeared more likely to experience offensive odours if they spent a lot of time outdoors.

Dust was identified as an important issue by people living in Middle Swan, Viveash and Woodbridge. Relatively few of the respondents from Hazelmere or Bellevue felt that brickworks dust was a problem. Haze attributed to brickworks stacks was identified as an important issue by those from Bellevue and Hazelmere, but was commented upon by fewer respondents from other areas. Events involving haze seem to be related in part to weather conditions, especially to high humidity or periods of temperature inversion.

The most common licensing issue raised by interviewees was their lack of confidence in the intermittent testing of stack emissions required under the current brickworks licences. Many people said that they thought that continuous monitoring of chimney emissions should be required.

The figure on pages 2 and 3 (overleaf) shows where interview participants said that they have observed brickworks impacts on air quality. Locations are approximate.

What has changed?

Information obtained through the targeted interviews and the information held on DEP's complaints files will be reflected in new licence conditions imposed on brick and clay tile manufacturers. New licences proposed for brick manufacturers in the Midland area will require them to measure their emissions of a wider range of pollutants, including:

- hydrogen chloride,
- sulphur dioxide and
- sulphur trioxide.

Exposure to these substances has been associated with similar health effects to those reported by interviewees. The substances are commonly monitored by brick manufacturers in other Australian states.

As well, the companies will be required to maintain a complaints register and to report on the actions they have taken to deal with the cause of the problems reported.

What next?

We still have a limited knowledge of what substances are giving rise to the odour, haze and physical symptoms reported by interviewees. Additional work is planned to help us to understand the causes of air quality problems, so that control measures can be developed. The following additional work is planned for the next three to four months:

- DEP proposes to engage a specialist in odour pollution and brickworks air emissions to provide advice on ways of identifying and monitoring significant pollutants from brick manufacturing in the Midland area. This work is expected to be commissioned in November 2002.
- The major brick producing facilities have been asked to supply DEP with more detailed information on the clays and additives they use in their processes. After this information has been analysed, the companies may be required to carry out special studies to characterise their emissions.
- A final report on the existing Swan Valley brickworks will be completed by DEP in December 2002. Copies of the report will be available to the public.

The last word – another brickworks?

Many of the interviewees asked whether it is true that another brick manufacturing plant is planned for the Swan Valley area.

New projects - Neither DEP nor the City of Swan currently have applications pending for a new brickmaking plant in the City of Swan. If such a proposal is received, it will be publicly advertised and an assessment of the project would be required.

Approved projects - In December 1998, the EPA approved a proposal by Saracen Properties Pty Ltd for the construction and operation of a brick and tile manufacturing plant ("Tower Brick") at Lot 6 Bushmead Road, Hazelmere. A condition of the approval was that the project would have to have been "substantially commenced" within 5 years of the approval. Otherwise, the approval would lapse and be void.

The EPA conditions further required that if Saracen Properties intended to seek an extension to the 5-year period allowed for substantial commencement, an application for such an extension would have to be lodged at least six months before the expiration of the 5 year period (that is, by June 2003).

Subsequent to EPA's report on the Tower Brick proposal, the company applied to the City of Swan for planning approval for the project. Approval was refused. No further planning applications related to the project have been received by the City of Swan.

DEP is seeking clarification of the status of the Tower Brick project so that a decision can be made whether the potential impacts of the proposed brickworks should be considered in the current review of Swan Valley brickworks.

Existing projects - In June 2002, DEP received an application for modifications to the existing Midland Brick plant at Middle Swan. The changes do not involve an increase in production capacity. The main changes proposed involve construction of additional kiln facilities at the northern (Whiteman's) end of the site and shutting down of kilns at the southern end of the site.

DEP has requested further technical information from Midland Brick and details of the company's proposed strategy for community consultation. As of 7 November 2002, this additional information had not been received. DEP will not proceed with consideration of the application until it has received the information that has been requested.