Visy's Recycled Paper Mill in Reservoir Odour Management Plan

FACT SHEET

Objective of the Odour Management Plan

The key objective of the Visy Odour Management Plan (OMP) is to provide a strategic multi-stage plan to identify, prioritise and implement effective and practicable control of odour emissions from Visy's Reservoir site to reduce odour impacts on the community to an acceptable level.

Visy is committed to working with the community and the EPA to establish and sustainably maintain an acceptable level of odour impact under a risk based continuous improvement program.

Odours in the recycled paper making process

Recycled paper making is a water intensive process and, in line with Visy's commitment to sustainability, we recycle as much water as possible. The temperature and chemical conditions in the recycled water system provides an environment which produce sulphides and volatile fatty acids (VFAs), such as acetic acid (vinegar), as a by-product of the paper recycling process, in the circulating water.

Under certain conditions, when the water vapour is then released by the recycled paper manufacturing process, small amounts of these substances are released into the air. While not hazardous, these substances have low odour detection thresholds and can result in an odour depending on weather conditions.

While Visy has already undertaken substantial on-site work to reduce odour, there is still problem-solving work to do. There is no single simple solution. It will take time to get the combination of odour management strategies right.

What has been done so far?

Visy embarked on an initial odour control program in December 2020, including:

- Identifying and sampling odour sources
- Modelling impact from odour sources on the community using four years of meteorological data
- Risk assessment and ranking of odour sources based on intensity and rate of emission

Using this data, we consulted with industry air and odour technical expert, AOC Specialists, and have developed a staged odour control program focused on:

- Reducing the generation of odour by controlling bacteria in the process water system
- Reducing the emission of odour via odour capture and improved dispersion of emission sources

The staged odour control program is broken up into five stages, with the first stage now complete.

Stage one: Biocide program, extension of vacuum stacks and increase of discharge velocity

A targeted bacteria control program has been carried out by Van Eyk Pty Ltd using their patented biocide formulation. Van Eyk successfully implemented a similar program at the Amcor Paper Recycling Mill in Fairfield, Victoria. The targeted bacteria control program, that commenced in February 2021, has reduced bacteria and control sulphides in the water system but did not achieve the required level of control over VFAs.

Based on the completed odour risk and ranking exercise completed in December 2020, the vacuum stacks measured the highest odour intensity. In consultation with the EPA, the height of the vacuum stacks and the discharge velocity has been increased to improve dispersion and reduce the intensity of resultant odour at ground level. This work was completed in late October 2021.

What are the next four stages of the odour control program?

Stage two: Alternative bacteria control program to reduce VFAs

The alternative bacteria control program is a total sanitisation program that will aggressively target bacteria to reduce VFA levels in the water system.

The program will commence in December 2021 and will progressively reduce VFAs, reaching full effectiveness between April to June 2022.

Interim measures to reduce VFAs

In the interim we have increased the use of fresh water to flush out the water system, and increased the dosing of the stage one biocide program. We are monitoring the VFA levels on a daily basis and adjusting fresh water/biocide to manage the VFAs. These measures have commenced and will continue as we transition into the alternative bacteria control program.

Stage three: Modify existing hood recovery system

The hood exhaust takes the hot humid air from the recycled paper drying process and discharges it to atmosphere. Based on the completed odour risk and ranking exercise completed in December 2020, the hood exhausts are identified as a high risk to cause offsite odour impacts. The stage two bacteria control program will reduce the odour intensity from this source.

We propose to further improve odour capture and increase the height of the hood exhaust stacks to improve dispersion to reduce offsite odour impact. The complex engineering and installation of the proposed modification will take place over the next 12 to 18 months.

Stage four: Modify existing roof fans

Mechanical fans located at roof level above the recycled paper forming process exhaust the moist air from inside the building to atmosphere. The stage two alternative bacteria control program will reduce the odour intensity from this source. We propose to review the engineering and design of this mechanical exhaust system to improve the odour dispersion. The timeframe for these works will be finalised after the end of stage two.

Stage five: Modify existing building ventilation system

The building ventilation system incorporates existing non-mechanical wall and roof vents that draw outside air into the building, and discharge warm air out through the roof vents. The stage two alternative bacteria control program will reduce the odour intensity from this source. Further proposed works will, in combination with stage four, improve the odour capture and direct the discharge air through a forced extraction system into a stack. The timeframe for these works will be finalised after the end of stage two.

How will we know if the odour control program is effective?

During the implementation of the odour control actions, we will undertake odour assessments via in-field plume tracing and in-field odour surveys. These will be carried out by industry air and odour technical expert, AOC Specialists. This data, as well as EPA survey data, will be used to progressively assess the effectiveness of the OMP. We will share the results of the odour assessments with the EPA and the community throughout this program.

At the end of stage two we will undertake dynamic odour monitoring from each source and, combined with the field assessment, will review and re-assess the site odour risk profile and re-prioritise the next stage of odour control.