



Odour Monitoring and Abatement Consultancy Services

Consultancy Services

- Wastewater Treatment Works – Odour Control Tools & Techniques
- Odour Monitoring & Surveys
- Investigation, Feasibility & Strategy Studies
- Operational Support
- Odour Dispersion Modelling
- Septicity Prediction & Control
- Selection and Assessment of Odour Abatement Options & Ventilation Rates
- Odour Abatement Plant Testing

Wastewater Treatment Works – Odour Control Tools & Techniques

The avoidance of odour nuisance is an integral consideration for the construction of Greenfield wastewater treatment works and the redevelopment/upgrading of existing sites. By considering odour early in the design process, odour control benefits within a scheme can be maximised and potentially odorous processes identified. In addition the use of such reasoned studies are often necessary in negotiating with planning authorities. A range of tools, as described below, can be provided to prevent odour nuisance.

Odour Monitoring & Surveys

It is often useful to quantify and characterise existing emissions from a site in order to identify potential points of odour nuisance and design the appropriate abatement measures. Odour surveys that include odour mapping, olfactometry, spot sampling, continuous monitoring and review of operational processes can be provided.

A.W.T. Group has an inventory of equipment for spot/continuous sampling of hydrogen sulphide (range 1 part per billion to 1000 parts per million), ammonia (0 to 50 parts per million), total VOC (0 to 10,000 parts per million) in addition to the employment of Draeger gas detection tubes.

Investigation, Feasibility & Strategy Studies

Using a combination of monitoring/site assessment, process engineering techniques and actual implementation experience different options for sewerage system/site odour abatement can be assessed in terms of effectiveness, cost and long term viability. Recommendations can then be made for the most appropriate solution, and if required trials of promising solutions organised.

Operational Support

- Regular checks of odour abatement plant efficiency and key operating parameters
- Boundary checks
- Maintenance of odour abatement plant
- Optimisation of chemical dosing for septicity control

Odour Dispersion Modelling

Atmospheric dispersion modelling combines estimates of odour emission from a site with topographical and historical meteorological data to predict odour annoyance at surrounding points of interest (for example nearby housing). A.W.T. Group can carry out such studies including provision of the necessary models and selection of the appropriate odour annoyance criteria. Odour emission rates can be derived from site-specific measurement or extrapolated from our database of similar values.

There are two principle areas where dispersion modelling is of relevance:

- The comparison of odour impact from a number of different treatment plant process and layout options
- Demonstration of compliance with regulatory requirements and as input into discussions with planning authorities.

Septicity Prediction & Control

The centralisation of wastewater treatment has led to an increased proportion of wastewater volumes being pumped considerable distances. This has increased the number of sites where septicity results from long anaerobic retention times in rising main systems.

A.W.T. Group has computer models for predicting sulphide development from actual or planned sewage systems. The results can be used to estimate odour impact at points of discharge and can be further calibrated with site sampling for dissolved sulphide. The model also has the ability to calculate required chemical doses for septicity control/prevention.

Selection and Assessment of Odour Abatement Options & Ventilation Rates

Advice can be provided regarding the sizing of odour extraction rates from odorous sources and the appropriate abatement technology (be it physical odour abatement plant, chemical dosing or process modification). Using a combination of the techniques above, a specification providing realistic odour characterisation and strength data can be provided. Generally many historical odour abatement plant specifications have underestimated odour strength and over estimated volumetric extraction requirements.

If required, feasibility studies to determine the most effective option can be carried out with reference to process, cost, engineering and safety issues. We can assist with trial pilot studies to determine the most appropriate solution.

Our experience of such design has included enclosed wastewater treatment plants and thermal sludge drying plants.

Odour Abatement Plant Testing

The following services are offered:

- Design of testing schedules
- Abatement plant efficiency testing using a range of determinants including hydrogen sulphide and olfactometry (if required).
- Continuous monitoring of abatement plant efficiency.

preserving the environment

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