ODOUR CONTROL FROM WASTE FIRING PLANTS

1 GENERAL

Waste fired incinerators are in themselves odour free. A properly designed plant will not yield any odours from the flue gases.

However the storage and handling of in particular municipal waste fuels can easily create odour problems.

Calambio have designed a few plants where this problem has been addressed. The key parameters for this involves:

- All fuel storage is done indoors. Sometimes in a proper building and sometimes in a huge industrial tent.
- All localities have a lower pressure than the surrounding atmosphere.
- Gates and doors are kept closed when not in use for transport.
- Ventilation flows are big enough to accept temporary opening of gates.
- Ventilation flows is limited by means of leading less contaminated air flows through localities with higher contamination.

The polluted air is blown to a bio filter based upon aerobic composting, which purifies various gasses. The filters use bark form Norwegian coniferous prepared with nutrient adapted to specific gasses on each site.

Gasses from handling of municipal waste are relatively easy to handle and the smell leaving the filter will, if any, be that of bark.

Apart from the filter itself design of these systems involves filtering and moistening of the gases and control systems.

Figure – Polluted air from fuel storage/ preparation at the waste fired plant in Nybro. The capacity is 30.000 m^3/h.

Figure – Bio Filter for 30.000 m^3/h off gases for a waste incineration plant in Västervik, Sweden during construction.

Figure – Overview of the Västervik filter. This plant is situated by the sea some 250 meters from a residential area in the idyllic town of Västervik. Before installation of this filter, there where massive complaints of odour from an elderly installation.

Figure – Small bio filter for cleaning of carcinogenic trimethylamine from a plant for modified starch for the pulp and paper industry in Sweden. This filter is stage to accept various operation modes. It will accept flows from 400 – 2000 m^3/h.

Figure – Filter installation in municipal waste handling plant.

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