CAMFIL **CASE STUDY**

MOLECULAR GAS FILTERS REMOVES CORROSIVE HYDROGEN SULPHIDE IN WASTE WATER

ABOUT THE PROJECT

Hydrogen sulphide gas (H_2S) from waste water damages electrical circuits by oxidizing metal and causing circuits and control switches to fail. Metal corrosion increases electrical resistance and temperatures frequently causing fires. Some recent figures for costs on one such waste water treatment facility are shown. Examples show costs that can be greatly reduced with cleaner air.

The cost: £2.5 million pounds lost revenue in a 3 month period and £250K replace cost for switchgear panels.

SOLUTION

The need for control and monitoring of the air quality in this plant switch room is self evident in this instance. Camfil can provide the air purification solution in these situations by using activated carbon filters to remove hydrogen sulphide (H_2S) from the plant switch room. These filters can be provided in a standalone Camfil air purifier which can be plugged in and running in minutes. Background gas corrosion rates can be identified using a Camfil coupon analyser.

Camfil CC 6000 unit with gas filtration

Camfil coupon with copper and silver elements

ABOUT CAMCLEANER CC6000:

- Size: 650 x 1,810 x 810 mm
- Air volume: max 6000 m^3/h
- Air purification area: max 1,000 m^2
- Pre-filter + HEPA filter with carbon filters available as optional extra.

CAMFIL **CASE STUDY**

PARTICULATE FILTERS REMOVES AIRBORNE HEAT HAZARD FOR SEWAGE SWITCHGEAR ROOM

ABOUT THE PROJECT

Particle counts were carried out to demonstrate that Camfil air purifiers can be used to remove airborne particles that otherwise reduce ventilation airflow. The curve below shows the declining levels of fine airborne particles while the Camfil air purifier unit was running in the pool switch control room.

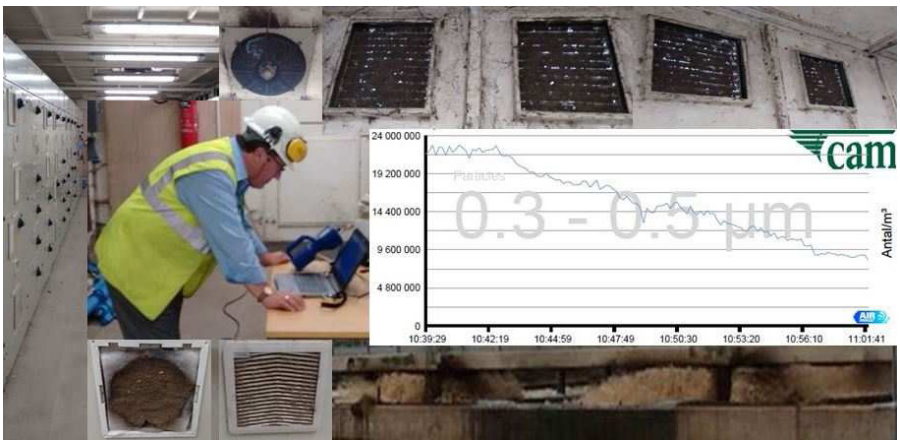
The cost: Recent panel failure has been at over 30% resulting in costs of £25K to replace faulty switchroom units.

SOLUTION

The Camfil air purifier was running for only a few minutes before the airborne particle concentration was in the room was under control. The molecular gas filters fitted also reduce levels of waste water gases such as hydrogen sulphide (H_2S). The switch panel room is situated in the middle of a number of waste water treatment pools and so switch panels are exposed also to waste water gases.

The control panel air filter pads shown were clearly overloading and it was recommended additional quickly detachable fine screens were fitted to all the room dirty intake grilles. Ventilation air flow is required to dilute air and reduce elevated temperatures in the switch room. Waste water gases such as hydrogen sulphide (H_2S) are hazardous to health as well as damaging to plant and so should be kept under control especially in places where people are regularly working. H_2S is a clear toxic gas but can be recognised as it has the odour of rotten eggs.

Camfil molecular gas filters are also extremely effective in removing odours from the air and so apart from protecting the health of working people they can make the working environment far more pleasant than would otherwise be the case.



Camfil CITY M Air Purifier