

Case Study

Liquid waste off-gas treatment

Technology
for a
sustainable future

Application

Biffa Waste Services operate a major waste disposal site at Kilsyth in Scotland where they handle many types of industrial liquid effluent. This can give rise to a range of emissions from both the tank farm and the road tanker deliveries. In addition, significant NO₂ and nitric acid fume releases can arise from process upset conditions.

ERG provided an emergency NO₂ scrubber as part of the site-wide fume extraction and treatment system which now ensures no fugitive fume emissions from tanks and >99% treatment of all acidic and noxious fumes.

System description

The system ERG supplied uses a multi-purpose venturi eductor scrubber generating 750Pa suction. It draws vented air from the tanks through the ductwork network and discharge it through the packed bed scrubber to secondary treatment. A key factor is the near instantaneous system start-up by pressing the pump start, there is no need to wait for an extraction fan to run up to speed the venturi eductor provides all the extraction needed. Typical gasses include SO_x, HCl, HF, H₂S, HCN, NO₂.

Emergency treatment of nitric acid fumes is handled by a 1m³ sump tank containing 5-10% caustic solution.

A 20m³/hr recirculation pump supplies both the venturi eductor and the packed tower scrubber.

Design gas flow rate 600m³/hr treating a 50kg NO₂ emergency release.

Equipment description

Venturi eductor: 0.5m dia by 1.4m height, in polypropylene/GRP

Sump tank: 1.2m dia. by 1.2m height, in polypropylene/GRP

Packed tower: 0.3m dia. by 2.0m height, in polypropylene/GRP

Pump: 20m³/hr at 4.5barg, 15kW motor, magdrive

Successfully operating since 2004

Value: £30,000 (Complete fume scrubbing system £100,000)

For further information, or to discuss your application, contact:

ERG (Air Pollution Control) Limited

Enviro-centre Enterprise House

Foundry Lane Horsham

West Sussex RH13 5PX UK

T +44 (0)1403 221000

F +44 (0)1403 221001

E info@ergapc.co.uk

W www.ergapc.co.uk



www.ergapc.co.uk

