



Contractor:



Location:  
Maidstone, Kent



Products Used:



DUSTEX®  
Dust Control

## RVT Group's Dust Control Solution Protects Workers During Shutdown Maintenance at Kent Enviropower.

### Project Overview

FCC Environment is a waste and resource management company which looks to deliver change for a sustainable future. They are committed to reducing the UK's reliance on fossil fuels, and currently have seven Energy-from-Waste facilities nationwide. One of the facilities is Kent Enviropower, based in Maidstone, Kent.

The facility has had £150 million investment and began operating in 2008. Today, it supports power to 60,000 homes, and generates 43MW of electricity, 34MW of that going to the local electricity supply network, and any remaining electric goes back into powering the facility.

The main purpose of the Maidstone site is to recover energy from non-hazardous waste, processing up to 550,000 tonnes of mixed waste a year. With such a positive impact on reducing fossil fuel use, and supplying many homes with power, keeping the site working efficiently is vital.

The facility uses two large furnaces to turn waste-to-energy. To ensure these work as efficiently as possible throughout the year, there are two scheduled shutdowns a year, which is when any maintenance or repairs to the furnaces take place. With such a reliance within the local area, one furnace is shut down at a time, and there are very tight deadlines to meet. Any delays can cost thousands of pounds.

## Confined Space Definition

"Any place, including any chamber, tank, vat, silo, pit, trench, pipe, sewer, flue, well or other similar space in which, by virtue of its enclosed nature, there arises a reasonably foreseeable specified risk".

## Working within a Confined Space:

- To enter a confined space, you must be permitted to do so.
- It imperative to be aware of the risks that may occur within a confined space, and ensure you are fully trained & capable of the task in hand.
- Ensure Risk Assessments have been conducted & permits have been issued.
- Ensure there is an emergency rescue plan and that first aid & resuscitation equipment is on stand by. Always follow the plan.

## Challenge

It was identified that dust control was imperative for the project to go ahead safely. The main work scope included extensive removal of the refractory lining, and re-lining works to be carried out, all of which would create hazardous dust. Due to the nature of what the furnaces do, the works needing to be done were within confined spaces, with no access to fresh air. Dust control was paramount in the protection of workers health and the environment they were working in.

FCC Environment reached out to the RVT Group following previous success of working together to control hazards on site. One of RVT's technical consultants visited the site to better understand the challenges, and to recommend an effective dust control solution.

## Solution

RVT Group implemented specialist dust control solutions on levels 3 and 5 of the furnace to protect workers from dust exposure, and to reduce potential visibility issues that could be caused by airborne dust within the confined space. Across both levels, we installed a combination of solutions which consisted of DUSTEX® Superfilta 40, VENTEX® Centrifugal Fan 200S-HP and RAVEX® Wandafilta Plus.

The first stage of filtration was via the DUSTEX® Superfilta 40, which collected the bulk of dust being created. Multiple hoses were used to reach the different locations where the works were taking place, extracting dust close to the source. To maintain airflow and save on maintenance downtime, the filters within the equipment are automatically cleaned using pulse-jet technology.

The second stage of the solution was the RAVEX® Wandafilta Plus, which filtered the airflow up to HEPA standard, removing up to 99.9% of air pollutants.

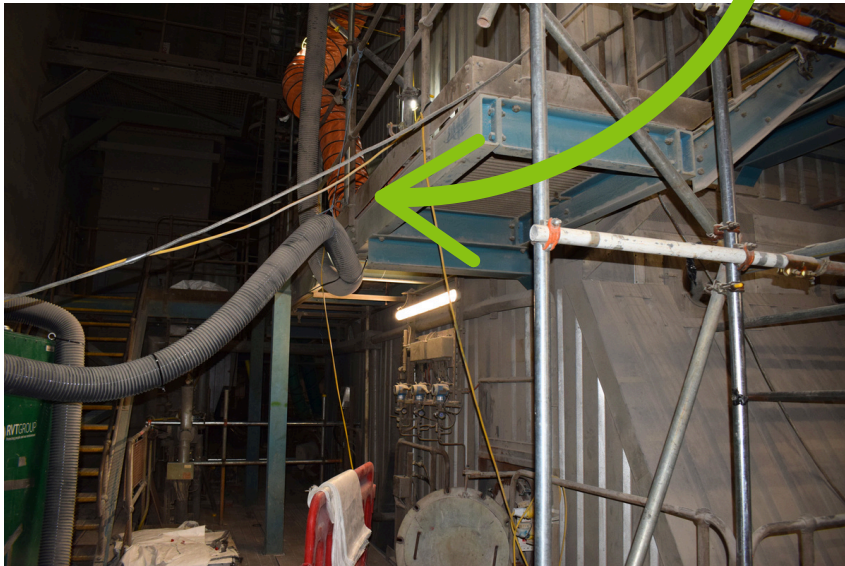
The final stage of RVT's set up was the VENTEX® Centrifugal Fan 200S-HP, which provided the powerful airflow of the system, and vented out the clean air once it had been filtered. It's centrifugal design means the airflow does not pass over the motor, and has a light that indicates when the equipment is in use.

Following the implementation of our equipment across the two levels, we successfully extracted high volumes of dust from the work areas, helping to create a safe environment for workers, and protect them from any long-term health conditions.

## Images



- This was the set up across both levels. The extraction kit had multiple hoses leading into the various confined space areas within the furnace.



- Hosing went from the DUSTEX® Superfilta 40, up into the confined spaces where the workers were carrying out various maintenance works.



- Hosing can easily feed into confined areas and does not collapse under high pressure airflow. This was particularly important on this project due to having 50m+ of ducting, and the need to extract from various confined space work areas.