



Client:

MVV Baldovie EfW CHP Facility



Location:

Dundee, Scotland



Products Used:



VENTEX®
Ventilation Control



RAVEX®
Fume Control

Specialist LEV and Ventilation Hire Equipment Supports Energy-from-Waste Plant During Maintenance Shutdown

Project Overview

MVV Baldovie Energy from Waste (EfW) Combined Heat and Power (CHP) Facility is based in Dundee, Scotland. Since 2017, MVV Baldovie has been supporting Dundee City and Angus Councils to manage their residual waste. During the long-term contract, MVV Baldovie will utilise municipal solid waste, and commercial and industrial waste to generate electricity.

The MVV Baldovie EfW CHP facility had a scheduled three week plant shutdown to carry out various maintenance works within the furnace chambers, including activities such as welding, burning and grit blasting.

Challenge

During planning for the shutdown it was identified that there were hazards requiring control to protect workers' health and the surrounding environment.

Welders were scheduled to be working at the top of the furnace to carry out cutting and welding activities, welding fumes contain harmful particles from the material being welded and the electrode. Research conducted by the International Agency for Research on Cancer found that exposure to welding fumes, including mild steel welding, can cause lung cancer, so fume control was imperative.

The second area requiring support was the contractors carrying out grit blasting and small scale burning on the grate at the bottom of the furnace. The main concern was that fumes would rise up to where the welders were working.

MVV Baldovie EfW CHP Facility required an effective hazard control solution that could control the volume of fumes being created on both levels, ensuring visibility was not compromised during the project. It was also imperative to ensure productivity remained high, and the workers long-term health was protected.

LEV: What You Need To Know

What Is LEV?

A Local Exhaust Ventilation (LEV) system is designed to extract contaminants at source.

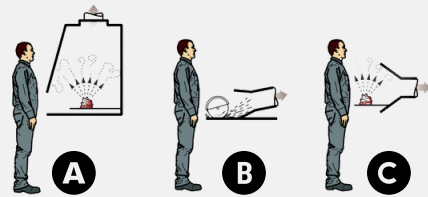
LEV systems require a Thorough Examination & Test every 14 months. Here at RVT, we take product performance very seriously and have always had a rigorous maintenance programme in place to ensure that every product is serviced between each hire.

5 Key Components of an LEV System:

- Discharge
- Ducting
- Fan
- Filter
- Hood

Types of Hoods:

- A. Enclosing Hood
- B. Receptor Hood
- C. Capture Hood



RVT Group are a specialist supplier of LEV solutions.

We are an **A-Rated Expert** on the BOHS Directory, and many of our consultants have a series of BOHS certificates, including: W201, P600, P601, P602, P604, W501, W503, & W505.

Solution

RVT Group's experienced consultants attended MVV Baldovie EfW CHP Facility to better understand the challenges faced. Following a site survey, we were able to create a bespoke hazard control solution suitable for the EfW plant maintenance shutdown requirements.

To protect the workers at the top of the furnace from welding fumes, RVT installed a VENTEX® 200S-HP Centrifugal fan in conjunction with RAVEX® Wandafilta Plus Kit, to create a mobile LEV system designed for fume extraction and filtration. The kit was attached to ducting and a capture hood that was placed right at the source of the welding fumes, providing a successful LEV extraction system. Part of this set up included three-stage High Efficiency Particulate Air (HEPA) filtration, providing optimum protection for workers by removing up to 99.9% of air pollutants.

For the contractors carrying out grit blasting and small scale burning on the grate at the bottom of the furnace, we installed a VENTEX® 300M Centrifugal fan in conjunction with RAVEX® Wandafilta Plus Kit. Similarly to the set up at the top of the furnace, this LEV system provided successful fume extraction and HEPA filtration. The magnetic capture hood ensured precise set up for capturing the fumes at the source and reducing the risk of fumes escaping.

Across both levels of the furnace, RVT installed VENTEX® 200P Centrifugal fans to provide up to 3200m³/hr forced fresh air into the work spaces. This ensured workers continuously had fresh air entering the small work areas. The 200P Centrifugal fan was suitable for this project due to its ability to ventilate small areas and be used as part of an LEV system.

Following the implementation of RVT Group's specialist hire equipment, workers and contractors were able to carry out the activities within a safe environment that protected their long-term health, the surrounding environment, and kept their productivity high with no visibility issues.

