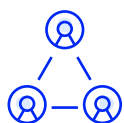




Chemical Engineering & Ventilation Ltd.
א.ב.פ. הנדסת כימיה ואוויר בע"מ

Design and Installation of Odor and VOC Extraction System at a Municipal Waste Transfer Station



Client

Municipal Waste
Transfer Station



Industry

Recycling and
Waste Management



Location

Central Israel



Project Duration

12 months



Year

2022

A.B.P. Chemical Engineering and Ventilation Ltd. designed and supplied a comprehensive odor and air extraction system for one of Israel's largest municipal waste transfer stations. The 350,000 m³/h system includes six dust filters and six activated carbon filters to effectively remove odors and VOC emissions and prevent their release into the surrounding environment.

Existing Conditions

At the waste collection and sorting facility, household waste was concentrated in a large, open pit exposed to the surrounding environment.

As part of the site's odor control improvements, the client constructed a closed building to contain all waste-handling operations.

This enclosure enabled the design of an air extraction system for odor removal and to maintain negative pressure within the building, preventing fugitive odor emissions to the environment.

Challenge

- Implementing solutions without interrupting ongoing operations
- Executing the project under a tight schedule
- Designing and installing a large-scale extraction system exceeding 350,000 m³/h
- Effectively treating odor nuisances generated inside the waste hangar

Solution

A.B.P. Chemical Engineering and Ventilation Ltd. designed a sealed hangar with a full air collection and treatment system. Extracted air passes through self-cleaning dust filters followed by activated carbon filters for odor and VOC removal. Six extraction lines handle about 60,000 m³/h each (total ~360,000 m³/h).

Design considerations:

- Proper ventilation for worker hygiene and safety
- Maintaining minimum negative pressure per EPA Method 204
- Operational accessibility and flexibility

Project Scope and Deliverables

- Process and mechanical design for extraction definition, airflow, and equipment layout
- Full extraction network including hoods, louvers, ducts, blowers, and stacks
- Self-cleaning dust filters
- Activated carbon filters for odor control
- Air curtains above openings
- Continuous emission monitoring systems

Sustainability Outcomes

- Significant reduction of odor emissions from building openings
- Elimination of odor nuisances from the treatment system stacks

Results

Following the installation of the new ventilation system, odor emissions were reduced dramatically, and the facility achieved odor concentration levels among the most stringent worldwide.