

Case Study

Odor Continuous Emission Monitoring System

Airfobep

Technical landfill centre for household waste and composting site



For more information:
www.odotech.com

Location:	Lançon-Provence, France
Start of project:	2005
Commissioning:	2006
Client:	Airfobep, ADEME, Ortec
Distributor:	Odotech Inc.
OdoWatch System:	3 electronic noses, OdoWatch software for modeling atmospheric dispersion of odors, weather tower

Background

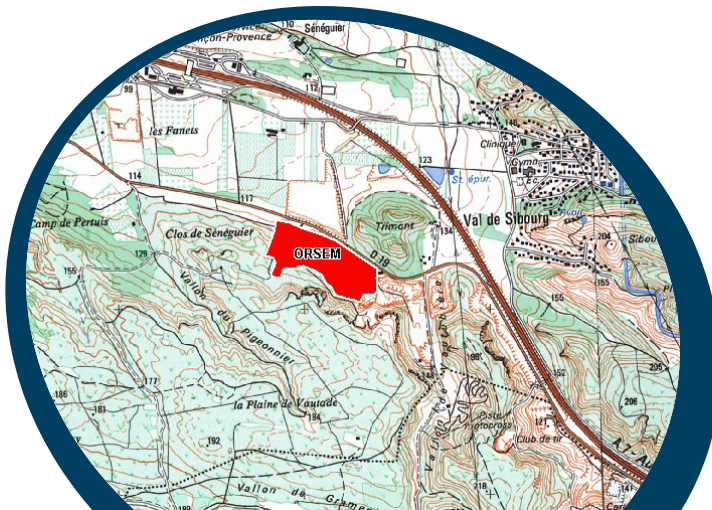
The ORTEC site, located in Lançon-Provence in the south of France, includes a technical landfill for household waste and a composting site for handling the sludge from a wastewater processing station. Airfobep (Association de la surveillance de la qualité de l'air de l'Étang de Berre), encouraged by the residents of the Val-de-Sibourg community located about 1 km from the ORTEC site, was given the mandate to assess the olfactory nuisance associated with the site and to develop a system that would warn the site operator of negative olfactory incidents. Odotech completed the project on behalf of Airfobep. The ADEME was involved in the project, providing financial assistance

Odotech Assignment

Odotech installed a continuous measurement OdoWatch system for odor monitoring, comprised of 3 electronic noses positioned at the edge of the 3 principal sources of odor emissions: the composting windrows, the fresh sludge reception zone and the edge of the landfill burial zone.

With the help of the OdoWatch software, atmospheric dispersion of the odors was calculated in real time and allowed visualization of the local environment's zones affected by site emissions.

In conjunction with technical installations at the facility itself, a neighborhood committee was established to allow the monitoring of odors perceived by the residents of Val-de-Sibourg



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Principal Outcome

After 1 year of monitoring, cross analysis of OdoWatch results and those of the neighborhood committee produced figures suggesting that about 80% of the odor episodes pointed out by the committee members were not attributable to the ORTEC site, but to other sources of odor in the surrounding area.

It was determined that the odor level in the neighborhood community that 95% of the time leads to odor detection by its residents is 4.5 u.o./m^3 , with a warning frequency of a little less than 2% of the time.

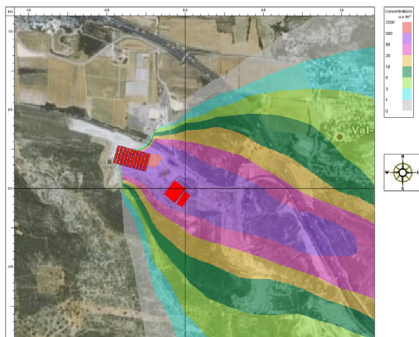


Illustration 1: atmospheric dispersion of odors model

Accordingly, this odor concentration value was chosen as the warning threshold. This warning threshold corresponds to the value of an odor concentration in the neighborhood community that requires the operator to establish a procedure for odor reduction (neutralizing foggers, halt in operations).

The implementation of the OdoWatch System has given the residents of Val-de-Sibourg a better grasp of the complexity of olfactory odors and their origins, and allows ORTEC to continue to pursue its activities.

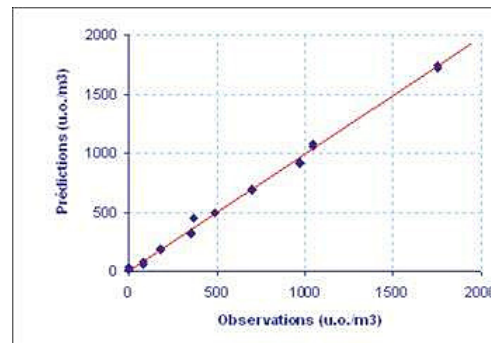


Illustration 2: The validation process of performed measures shows a system accuracy of $\pm 3\%$.

"Electronic nose analyses are compared with the findings of our 'olfactometric juries', which gives us very accurate data on the origins of olfactory nuisances."

Boualem Mesbah, Airfobep Research Engineer, in an interview with La Provence on April 26, 2007

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Odotech Inc. is a leading designer and producer of odor measuring and monitoring systems. It carries out odor impact and other related studies as for governments, waste disposal and waste water treatment operators, industries and other organizations facing odor issues, worldwide.

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