Monitoring of odors emissions from a large wastewater treatment plant

Rémi Perret
INERIS, Institut national de l'environnement industriel et des risques
P.O. Box 2
60.550 Verneuil en Halatte
France

Abstract

Because of complaints related to odors emissions from the large “Seine Aval” wastewater treatment plant (2 000 000 cubic meters/day) located near Paris, an extensive measurement programme has been performed, both by olfactometric and physicochemical techniques, in order to characterize the emissions from each step of the water- and sludge treatment processes, and their variation in the time.

As a consequence, several actions have been carried out to reduce the emissions by covering reactors and cleaning of collected gases. It was also shown that some occasional odors events are related to operating problems of the water treatment process, which perhaps could be reduced by a better understanding of their origin, and it was therefore decided to monitor odors emissions on a continuous basis.

Since in that plant odors have been proved to be well correlated with TRS concentrations (Total Reduced Sulfur, sum of H2S, mercaptans, organic sulfides), they are monitored by the mean of a network of 20 ambient air TRS monitors, located within the plant in such a way that the reactors at the origin of abnormal odors emissions can be detected, using the data of a 100m high meteo mast for modelling dispersion of odors.

Examples of measurement results, and of their uses, will be given.