

Case study

Odor monitoring and measurement

City of Montreal Wastewater Treatment Plant



For more information:
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Location:	Montreal (Quebec) Canada
Beginning of project:	2002
Beginning of operation:	2003
Client:	City of Montreal (Ville de Montréal)
Distributor:	Odotech Inc.
OdoWatch system:	11 electronic noses, OdoWatch™ dispersion modelling software, weather tower

Background Information

The island of Montreal has almost 2 million people and a population density of 9,391 inhabitants/m². The City of Montreal's Wastewater Treatment Plant intercepts and treats all the wastewater generated on the island, which is almost half of the volume generated in the Province of Quebec. In addition, the Plant also treats the waste snow and industrial wastewater. The average flow rate received at the facility is approximately 660 million US gals/day. With a capacity of 2 billion US gals/day, it is the largest primary physicochemical treatment plant in the Americas. Construction costs for wastewater treatment works, including the interceptor network, totalled \$1 billion, \$ 600 million of which were invested in the construction of the Plant.

Odotech's Mandate

Odotech was granted a contract to supply and install an OdoWatch™ system consisting of 11 e-noses placed at various locations within the Plant, taking into account the site topography, the direction of prevailing winds and other factors. Phase I, consisting of 4 e-noses, was deployed in 2003. After validation of Phase I, 7 additional e-noses were installed in the summer of 2005.

For years, odors emanating from the facility were a nuisance to the Plant neighbours, mainly in summer. In 1998, the City of Montreal initiated an action plan for odor management. Its objectives were: to identify the sources of odors generated by the Plant, to modify operational and maintenance practices in order to reduce or avoid odor emissions, to find odor treatment products and technologies, and to establish good relations with the surrounding communities.

The Plant therefore ordered an odor monitoring system from Odotech. With OdoWatch™, the world's first electronic nose (e-nose) based wireless odor monitoring system, Plant operators have been able to distinguish between the odors originated on-site and those generated by other sites, determining the odor impact, and assessing the results of the odor abatement measures.

The e-noses were trained to identify 10 odors including those from the intake gates, pumping station discharge channels, residuals from the screening process, aerated grit chambers, clarifiers, sludge treatment building, filter presses, incinerator, cake drying units, and the biofilter.

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.

3333 Queen Mary Road, Suite 301, Montreal, QC, Canada H3V 1A2 Tel.: 514 340-5250 Fax: 514 340-5211 www.odotech.com

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