

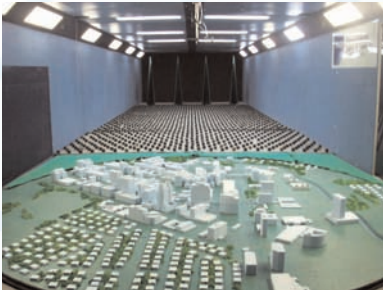


RWDI

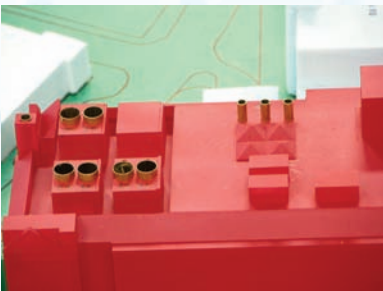
CONSULTING ENGINEERS
& SCIENTISTS

Exhaust Re-entrainment Studies

To quantify the contamination of buildings' fresh air supplies due to re-entrainment of hazardous and/or odorous exhausts.



Wind tunnel testing is a great consulting resource.



Building exhausts can be accurately scaled and modeled in the wind tunnel.



Exhaust visualization can help understand the effects of complex wind environments.

Benefits to Clients

- **Balance safety and energy efficiency:** Achieve sufficient dispersion and dilution of contaminants for cases with lower exhaust flow rates / exit velocities and energy recovery systems.
- **Prevent costly retrofits and complaints:** Solve problematic air contamination conditions at the design stage.
- **Reduce building occupant exposure:** Optimize the location of intakes and the design of stacks to reduce exposure to unsafe levels of airborne contaminants and nuisance odors.

Key Features

- **Consultative and Interactive:** At every stage of the design process, RWDI works with owners and teams to develop air intake and exhaust system designs that minimize re-entrainment of hazardous and/or odorous exhausts. This can be achieved in two steps:
- **Design Reviews:** Experience-based qualitative design reviews are best performed during the conceptual or early schematic phases while the design is flexible; however, design reviews can be performed at any stage and for existing buildings. Guidance is provided on the location of intakes and exhausts with respect to the existing surroundings.
- **Detailed Modeling:** Detailed modeling using either numerical or physical methods is completed with RWDI's proprietary suite of computer modeling software or with one of our boundary layer wind tunnels. Air quality impacts are quantified at the critical impact locations and stack height requirements, locations, flow rates, velocities, etc. are defined based on the limitations of the project (i.e., aesthetics, energy consumption, engineering limitations, etc.).

Rowan Williams Davies & Irwin Inc.

650 Woodlawn Road West (Head Office)
Guelph, Ontario, Canada N1K 1B8
Tel: 519-823-1311 Fax: 519-823-1316
E-mail: info@rwdi.com

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