

CASE STUDY 4

THE SILVAN DISINFECTION PLANT

PURAFIL®

FIRST
IN CLEAN
AIR

www.purafil.com

PURAFIL ESD PREVENTS ACCIDENTAL CHLORINE RELEASES 4 THE SILVAN DISINFECTION PLANT



ABOUT THE SILVAN DISINFECTION PLANT

Located in the mountains outside Melbourne, the Silvan Disinfection Plant was classified under state government legislation as a major hazard facility.

THE PROBLEM

According to plant project manager Stephen Answerth, "Melbourne Water was required to reduce the risk of a chlorine release 'so far as practicable.'"

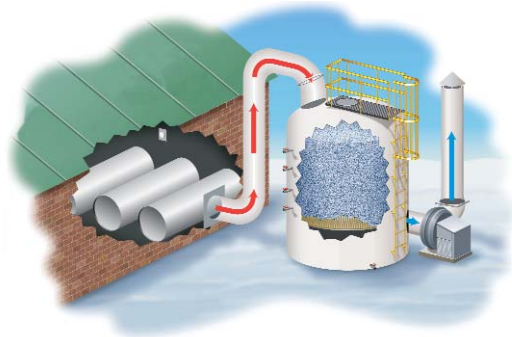
Plant representatives considered using wet scrubbers, which were less expensive but required more maintenance and could harm humans, wildlife, and the environment.

PURAFIL PROVIDES THE SOLUTION

To prevent accidental chlorine (Cl_2) releases, Silvan opted to use a Purafil Emergency Gas Scrubber (EGS) that measured 10 feet in diameter by 15 feet tall and held 25,000 pounds of CSO™ media. Local Purafil representative James McIntosh (Airepure Australia) facilitated their request.

In the event of an unintentional Cl_2 emission, the EGS follows these steps to eliminate the gas from the air:

- 1) Released Cl_2 is drawn into the scrubber through a blower and contacts dry-scrubbing media.
- 2) Media react with Cl_2 and permanently convert the gas to non-toxic solids.
- 3) Clean air is discharged to the outdoors with a Cl_2 concentration of less than 5 parts per billion.



PURAFIL® EMERGENCY GAS SCRUBBER

The EGS requires significantly less maintenance than a wet scrubber. It does not need heaters for outdoor applications, and it has just one moving part—a blower. Instead of using liquid caustic, the EGS neutralizes Cl_2 with dry-scrubbing media, which are highly porous, spherical pellets that permanently transform the gas into harmless solids. As long as media do not react with Cl_2 , they do not need to be replaced; they only require occasional testing to determine remaining life and to project change-out dates. Non-toxic and non-hazardous, media do not require special handling and can be disposed in landfills.

"The dry scrubber was selected because it is a simpler system and does not involve having liquid caustic soda on-site," Answerth said.

ABOUT PURAFIL ESD

For more than 15 years, Purafil ESD has been the premier single-source provider of clean air to over 100 North American and European clients. A division of Purafil, Inc., Purafil ESD manufactures a broad range of dry-scrubbing media and systems that remove odorous, toxic, and corrosive gases at water and wastewater applications.

Purafil ESD's Emergency Gas Scrubber (EGS) removes the contents of a fully-loaded chlorine (Cl_2) or sulfur dioxide (SO_2) cylinder in a worst-case release scenario and discharges less than 5 parts per billion. The EGS works in temperatures ranging from -40 degrees to 200 degrees Fahrenheit.

In the event of a release, the EGS draws Cl_2/SO_2 -laden air through a bed of dry-scrubbing media. The gases react irreversibly with the media's chemical impregnant, and the products of this reaction are solid salts that can be disposed of in common landfills.

© Purafil 2006 CsStdy--Silvan-01