PILOT PLANT PERFORMANCE OF A SDA/FF ON A SIMULATED MSW FLUE GAS

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Abstract

A mobile spray dryer absorber (SDA) and a fabric filter (FF), both rated at 3000 cfm (85 m^3/min), have been connected to a natural gas-fired modular incinerator to study their efficiency in controlling acid gases generated during the combustion of municipal solid waste (MSW). The MSW flue gas was simulated by doping the off-gas from the natural gas-fired incinerator with controlled amounts of water, HCl, SO_2, and flyash. The flyash was obtained from a municipal waste incinerator. In addition to the four variables mentioned above, the other variables were the stoichiometric amount of lime slurry used and the inlet and outlet temperatures of the SDA. The test matrix consisted of 72 runs. The SDA/FF system was able to achieve removal efficiencies of greater than 95% for the HCl and greater than 90% for the SO_2.

TECHNOLOGY TRANSFER/POLLUTION PREVENTION

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Abstract

The U.S. Environmental Protection Agency recognizes that many of the serious environmental problems facing this country will not be solved through the use of traditional end-of-the-pipe controls, therefore we have initiated program plans/activities to emphasize technology transfer and pollution prevention.

The Technology Transfer mission is to achieve improved environmental results by creating a climate that fosters cooperative approaches for solving environmental problems, building the knowledge and skills needed to take positive action, and expanding the use of technology transfer through technical assistance, training, and focused information dissemination.

As a part of this program, Region 6 established the Environmental Institute for Technology Transfer in cooperation with the University of Texas at Ar-

lington. We have initiated a very pro-active strategy to work with academia, industry, and State/local governments to establish communication links to foster and facilitate the transfer of information on new technology.

The prevention of waste rather than the control of pollution already generated is recognized as the most environmentally responsible approach. Toward this end we have initiated cooperative efforts with industry and academia to look at several management approaches that can provide an effective alternative to the traditional regulation of pollution at the end-of-the-pipe. The alternative approaches include: reduction at source; recovery and reuse; recycling; treatment and disposal.

FEASIBILITY STUDY OF GROUND WATER DETOXIFICATION

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Abstract

Computer simulation programs have been written to predict the performance of air/stream stripping for a non-ideal tray tower and a packed tower. Seventeen chlorinated hydrocarbons were considered in the contaminated ground water. The Henry constants for these organic contaminants range from 0.12 MPa (1.2 atm) of dichloroethyl ether (DCEE) to 169 MPa (1680 atm) of carbon tetrachloride.

The economics study indicated that the treatment cost of a packed tower is more economical than that of a tray tower. Based on 30 gpm (110 l/min) water flow rate and dichloroethyl ether (DCEE) as the key component, the treatment cost of air stripping is 5.6 ¢/gal for the tray tower, while for the packed tower the treatment cost is 3 ¢/gal.

USE OF ULTRAVIOLET IRRADIATION AND HYDROGEN PEROXIDE FOR THE CONTROL OF SOLVENT CONTAMINATION IN SMALL WATER UTILITIES

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Abstract

The U.S. Environmental Protection Agency has recently regulated several industrial solvents. The treatment technologies available for these contami-