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REDUCTION OF HYDROGEN SULFIDE FROM WASTEWATER TREATMENT PLANT OFF-GAS Millidgeville, New Brunswick

The Millidgeville Wastewater Treatment Plant in Saint John, NB has two sludge holding basins which contain waste clarifier sludge awaiting pumping to filter presses. The basins were open-top, resulting in the emission of an unpleasant odour (hydrogen sulfide) which prompted complaints from nearby residents.

After successful on-site pilot testing, an ADI SULFA-BIND™ adsorber was installed in May, 2003. The sludge basins were covered with a flexible geomembrane material, and a blower was installed to draw gas from them and deliver it to the adsorber vessel. The adsorber vessel is a 10' diameter x 7' tall fibreglass tank containing 8400 kg of media, with a geomembrane material cover. Hooded slits cut into the cover allow escape of treated gas while preventing ingress of rain or snow. The adsorber treats 525 cfm of air/gas from the basins, and consistently reduces hydrogen sulfide concentration from 30 ppm to non-detectable. Plant staff, and local residents no longer complain of odours and are very pleased with the technology.

For the municipality, the system represented an effective, low-cost treatment option, with minimal maintenance (periodic draining of condensate from the bottom of the vessel, and oiling of blower). The media is predicted to last at least five years before becoming saturated with H₂S.