



Industrial & Environmental Concepts, Inc. USA
Contact: 952-829-0731
ieccovers.com
info@ieccovers.com

CASE STUDY

By Dave Anderson

Upgrading Highly Loaded Waste Ponds to “Bio-Gas Banks”

Problem: Un-covered anaerobic systems can generate significant amounts of odors and renewable energy in the form of methane. The sulfides and methane are lost to the atmosphere due to lack of an impermeable barrier. If the basins were covered, the biogas could be captured, burned and converted to electricity and odors contained. A Missouri project, believed to be the largest and most comprehensive livestock manure-to-energy of its type in the world, is currently under way. The existing facultative basins collect waste from approximately 2 million hogs. The challenge was to convert over 40 basins to covered anaerobic systems that would capture the bio-gas.

Solution: The earthen basins were covered with 80 mil linear low density polyethylene (LLDPE) membrane covers. The air-tight covers were sealed around the basin perimeters in an earthen anchor trench. A pipeline encircled the water's edge to collect and channel the biogas to equipment on the berm that scrubbed and compressed the gas for use on-site or to sell.

Result: The basins were upgraded with minimal disruption to the operation. Covering the water surface with the geomembrane proved successful. The cover captured the bio-gas and contained the sulfides. The cover significantly reduced hauling & pumping costs due to the elimination of rainwater entering the WWTF. The cover system designed by IEC has proved to be reliable year-round with minimal operational requirements. Industrial and Environmental Concepts (IEC) 952-829-0731 www.ieccovers.com