



**LEMNA
RECOGNIZED FOR
“*GROUNDBREAKING DESIGN*”
BY
AMERICAN COUNCIL
OF ENGINEERING COMPANIES**

In an article in its April 2006 journal, the American Council of Engineering Companies (ACEC) recognized Lemna Technologies for "groundbreaking water infrastructure design" for the company's work retrofitting a wastewater treatment plant in Jasonville, Indiana.

The community had an outdated lagoon-based wastewater treatment facility that could not meet new environmental regulations for ammonia removal. Ammonia removal, difficult in any treatment system, was especially problematic in Jasonville where winter temperatures can fall to 28°F (2°C). The town feared that it would need to abandon its current facility and construct a brand new mechanical treatment plant in order to meet the new limits. But two problems--the expense for a new mechanical plant and the necessity for highly trained operators to run such a new, complex facility--led Jasonville to look for a solution that could reduce ammonia without the need to build a complex and expensive new plant.

Lemna Technologies specializes in cost-effective wastewater treatment solutions for small- and medium-sized communities. Utilizing its patented LemTec™ Modular Cover, it can retrofit existing wastewater lagoons to meet more stringent limits, to accommodate increased flows or both. In the case of Jasonville, as ACEC noted in its journal article, the company's creative solution meant "the city was able to get a 20-percent increase in rated capacity." Lemna's two-part solution to the town's dilemma entailed covering the existing aerated lagoon with its patented LemTec™ Modular Cover and adding a Lemna Polishing Reactor at the end of the treatment process.

The LemTec floating cover prevents sunlight from reaching water surfaces, prohibiting the growth of algae, controls odors and prevents wildlife from entering lagoons. In Jasonville, the main purpose of the LemTec cover was to maintain a higher water temperature, a necessary condition for ammonia removal. The higher temperature also results in improved treatment in the existing facility without the need for new construction.



The Lemna Polishing Reactor (LPR) added at the end of the facility further reduces ammonia levels through a series of attached-growth media modules. The media and diffused aeration create an optimal environment for the growth of nitrifying bacteria to reduce ammonia levels.

The ACEC article states "the \$2-million system went into effect in October 2005 and cost about \$700,000 less than a mechanical plant would have". Lemna's General Manager, Dave Anderson noted, "We are pleased to have created a solution that makes use of Jasonville's original lagoon system while substantially improving the plant's effluent quality."