



# Pearl River Valley Water Supply District Ridgeland, MS

## Performance History and Discussions

Biological dosing technology was implemented in the first phase of a collection system program in 2001. Beginning in 2002, additional collection system basins were added to the service program. Currently, the treated areas include the North and South shore of the Pelahatchie Bay, the Main Harbor, and two Lagoon Waste Water Treatment Plant (WWTP) collection systems. As a result, these treated areas of the collection system achieve significant odor, FOG and corrosion control benefits.

Regular visual inspections were performed at dosing locations to monitor panel functionality, re-fill microbe reservoirs, observe wet well oil and grease conditions, and make any necessary adjustments. Each location is monitored for pH and hydrogen sulfide (H<sub>2</sub>S) in solution to assure optimum, odour and corrosion control performance. Conditions requiring any additional action are coordinated with the Pearl River maintenance staff. Dosing rates are based on maintaining; FOG, odor and corrosion control performance metrics and field evaluation with the Pearl River maintenance staff.

By following the Environmental Protection Agency's proposed guidelines to evaluate odour and corrosion potential, which states that hydrogen sulfide concentrations ≤ 0.5ppm significantly reduce corrosive conditions within the sewer system.

Panels treating collection system lift stations and manholes apply the necessary microbe colonies to digest and reduce pollutant loading to the one remaining WWTP lagoon at Lake Harbor. Specifically engineered bacteria transform the collection system into an effective pre-treatment step to control lagoon odors and sludge accumulation. The continuous dosing of bacteria enhances the existing microcosm, which improves a lagoon's processing efficiency and extends the life cycle. The Lagoon WWTP systems service report is submitted as a separate document.

## Present Conditions

Review of these residential, commercial and lagoon WWTP collection systems and inspections confirm the ongoing program performance and/or economic benefits:

- Program services included additional kick start application required at lift stations to assure beneficial microbe colony dominance for optimum FOG, odour and system corrosion control.
- Control of obnoxious odours in the treated areas of the collection system.
- Reduced lift station cleaning and increased time between cleaning events.
- Control of FOG accumulation without significant new FOG deposits observed.
- Improved visual sewage water conditions with zero "black" septic water conditions reported.
- Control of solution sulfides at ≤ 0.3ppm at all dosing locations for reduced odour and corrosion levels.

Elimination of prior mechanical (Ozone) or chemical usage for lift station odour control since late in the current year 2003

## PROJECT PROFILE

### SUMMARY AT A GLANCE

**Project Installed:** May 2001

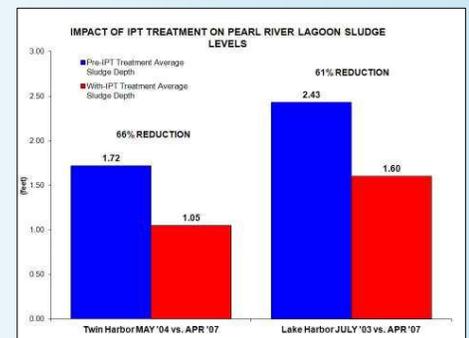
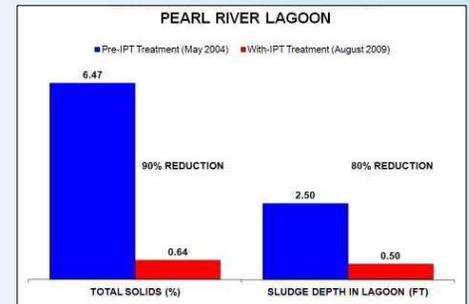
**Plant Size:** .50 MGD

### Service Objectives:

- Reduce Lagoon Sludge
- H<sub>2</sub>S Odour and Corrosion Control

### Performance Summary:

- 90% Reduction of Total Solids
- 80% Reduction of Sludge



## AFFORDABLE EFFICIENCY

Sewage Treatment  
Solutions

P.O. Box 5294

Westlock, AB T7P 2P4

Phone: 1-780-307-7657

www.stsolutions.ca