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City of Hattiesburg  
Mayor Dupree and City Council Members  
City Hall  
200 Forrest St.  
Hattiesburg, MS. 39401

North Lagoon Waste-water Project

There are a number of issues concerning the construction project for the North Lagoon Waste-water project relating to the specified aeration system, that I would like to address, since I have over forty years experience in the business, and over four years experience dealing with both the South and North Waste-water systems. Since I transcend the the previous and current water and waste-water administrations, and have always looked out for the cities best interest, in all good faith I needed to submit my input.

The issues with the specified aerators are as follows and will be addressed in this letter.

1. Odors at the South Lagoon
2. Sludge accumulation in the South Lagoon.
3. Insufficient mixing and Oxygen (O<sub>2</sub>) levels in the South Lagoon.
4. Sludge accumulation in the North Lagoon.
5. Insufficient BOD, TSS and e-Coli removal in the North Lagoon.
6. Insufficient mixing and Oxygen (O<sub>2</sub>) levels in the North Lagoon.
7. Excessive aeration power usage for both the South and North Lagoons.
8. Excessive aerator maintenance for both the South and North Lagoons.

All of these issues have created not only a financial burden, but a political nightmare for the city. Financially, hundreds of thousands of dollars have been wasted using the horizontal rotor surface aerators, and we all know the extent of the public uproar concerning the odor issue the last few years. All of these issues could have been prevented with the installation of sufficient bottom aeration in the South Lagoon, when USA Yeast started sending their waste-water to the South Lagoon. The North Lagoon issues could have also been prevented with sufficient bottom aeration.

**Why would the city want to repeat previous mistakes by installing horizontal rotor aerators in the new North Lagoon System, that created the issues in both systems.**

As the South Lagoon System issues have been well documented by involved personnel and the media, and is currently being upgraded with bottom aeration, I will only address the issues for the new North Lagoon System.

The current North Lagoon System issues are insufficient mixing and Oxygen (O<sub>2</sub>), sludge accumulation and excessive power and maintenance. These issues can be verified by discharges not meeting NPDES permit limits, and subsequent fines, sludge studies and removal projects performed during the last few years, power bills and personnel maintenance logs.

**Why would the city want these issues to come to the forefront during the next few years and, also, appreciably increase the power consumption? I would think the citizens would be concerned about using an aeration system, that has failed in the past, and increasing power consumption.**

The inefficiency of the proposed horizontal aerators and the SolarBee mixers is addressed in the included and past correspondence from John Hinde of ADS, and can be verified by Metcalf & Eddy data and studies performed by Dr. Linvill Rich of Clemson University.

What kind of warranty is provided by the proposed aeration companies to meet permit limits? **ADS is willing to install their system at no cost to the city, based on power savings for the first three to five years, as outlined in the included letter from ADS.** Once the ADS system is paid for through the power savings, the money (\$283,000.00 per year) could be used by the city for other projects. The proposed aeration system would simply drain the money from the city budget every year.

**What would the citizens think of the city wasting \$283,000.00 per year, not to mention the capitol expenditure for another aeration system that has already proved inefficient.**

**Since an ADS bottom aeration system is currently being installed in the South Lagoon System, and should be operational within about six weeks, the efficiency and mixing capabilities will be able to be seen first hand by all involved parties. With past Oxygen (O<sub>2</sub>) data and, hopefully, some data from the Oxygen (O<sub>2</sub>) sensor that is being installed, the horizontal rotor aerators can be compared to the ADS bottom aeration system.**

**Although, the current North Lagoon Project is bidding on August 26<sup>th</sup>, the city could simply have their engineering firm delete the aeration system portion of the project with an addendum. This would give the city time to evaluate the new ADS South Lagoon System versus the old horizontal rotor aerators, as the construction of the two new cells at the North Lagoon will take more than six weeks. Once the new cells are completed, the installation of either an ADS system or horizontal rotor aerators could be easily accomplished.**

**In all reality, how could the city go wrong by having a new aeration system installed at no capitol expense, and then put an additional \$283,000.00 in the city coffers after the system is paid for in three to five years. The citizens would probably be very happy with their elected officials.**

ADS was not given the opportunity to submit a proposal for the two new North Lagoon Waste-water cells, but would gladly submit such a proposal, along with a contractual agreement to install the system free of charge based on future power savings.

I appreciate the opportunity to present these ideas to the city, and look forward to assisting them in any way possible.

Sincerely,

Stephen Mitchell