



Engineered to Fail, Racketeer Regulators, and the Poop Dupe

The City of Hattiesburg's wastewater problems began back in 2002 when something unheard of was done. The city of Hattiesburg's engineer Bennie Sellers and outside engineers Shows Dearmon and Waites Engineering, failed to require a pre treatment permit for USA Yeast. No other company in the industrial park could discharge raw waste into the lagoons. The engineers tasked with protecting the city failed to do so. Why would they allow this to happen?

Yeast manufacturing produces very concentrated waste and is extremely concentrated in BOD (Biological Oxygen Demand), acidity, and phosphorus. Our lagoons can easily handle the yeast BOD demands if there is enough air in the water column for the bacteria to survive, but bacteria has trouble growing when the acidity of the water gets too low. USA YEast was discharging waste which had a ph OF 5. Any sensible engineer would know that to allow USA Yeast to dump waste with that low PH and high BOD would lead to a catastrophic collapse over time.

In 2002, the certain collapse of the city's wastewater treatment system was predicted if modifications were not made to the lagoons in order to handle USA Yeast's raw wastewater effluent. The report predicted everything that would happen. It outlined the following:

(1) Since the yeast plant's waste-water will be a readily available food source for all types of bacteria, the likelihood of its creating severe odor problems is a virtual certainty because the soluble material in the yeast waste-water will diffuse throughout the lagoon at a very high rate.

(2) There is extremely large potential for generating large amounts of hydrogen sulfide in the pipeline between the plant and the lagoon.

(3) The current lagoon design and aeration strategy is inadequate because it is based upon a 5-Day BOD removal normally associated with domestic waste-water.

(4) The accumulation rate of solids in the lagoon will be approximately 40% faster than anticipated and require an increase in aeration capacity and cost.

(5) The current plan to treat yeast plant effluent (96-acre lagoon, 74 aerators in 20 acres and 12 aerators in 76 acres) will result in rapid accumulation of sludge in the 20 acre section.

(6) Sulfate reducing bacteria will populate the pipeline between the plant and the lagoons, producing significant amounts of hydrogen sulfide.

(7) This pipeline will serve as an incubator for these bacteria that will accumulate in the lagoon and produce more hydrogen sulfide than the aerators will be able to strip from the water.

(8) Similarly, it is impossible to forecast whether or not the lagoon system will be able to maintain compliance with effluent standards under this new loading condition.

Why did the city's engineer not sound the alarm bells? Why was USA Yeast the only company to enter the industrial park not being required to pre-treat their waste, when all other companies in the Industrial Park had pre-treatment requirements? Why was this allowed to happen?

A member of government spoke to the Hattiesburg Patriot off the record and said USA Yeast was pushed hard on Hattiesburg

with great urgency by the Mississippi Development Authority, while Haley Barbour was Governor, under a fear of loss pitch. In other words, if we didn't hurry up and sign the contract, someone else would snap up USA Yeast. If only we had been so lucky.

The city council at the time, consisting of 1,2,3,4,5 voted to approve the acceptance of USA yeast contract with no pre-treatment requirements. With the stroke of a pen, Mayor Johnny Dupree signed a contract which would plague this city to this very day. The action would ultimately lead to one of the biggest rip-off shams in Hattiesburg's history. It would be known as the Poop Dupe. More on that later.

What transpired over the next 3 years was a disaster. As the yeast load began hitting the lagoon, the acidity began to drop and bacteria began to die at a rate that was faster than it could replace itself. The city only had approximately 30% of the air it needed without the acidity issues, but the problem became compounded. Just as predicted in the 2002 report, sludge began to accumulate at a fast pace. So much sludge accumulated in the lagoons that the sludge began accumulating against and tearing the baffle walls.

Each lagoon is divided into sections so the water can flow through it, thereby increasing the retention time that the water stays in the treatment lagoons, before going in the river. Typical municipal waste stays in the lagoons for 5 days from entrance to exit, heavy load from the Yeast plant and the lack of air, the retention time should have been increased to allow for more of the waste to be digested. That was not done. Nor was any effort made to balance the PH of the yeast waste before it made it to the lagoons, and no effort was made to increase air until 2007.

In addition the surface aerators were insufficient to deliver air below five feet. The paddle boat style agitators were common in catfish ponds with depths of 4 to 5 feet, but

totally insufficient for 10-12 foot deep lagoons. The aeration was paid for by Mississippi Power. The devices consumed enormous power and would provide a nice return for the power company. It turned out to be a very bad deal for residents. Given that these aerators were insufficient to meet our needs at the time, they couldn't come close to meeting the needs of the raw waste of USA Yeast.

USA Yeast began discharging their waste in 2003. The waste was 40 times more concentrated than municipal waste, with an acidity of 5.0, much too low for the bacterial to thrive and grow. Instead, bacteria which was digesting the waste and cleaning the water, began to die. Massive amounts of sludge began piling up in the system. The sludge accumulated at such a fast rate, grew so large, sludge islands formed, and their weight tore the curtains (baffle walls), which guides the water through channels, thereby increasing retention time. as the baffle walls tore under the weight of the sludge, the lagoon began "short circuiting," which means the wastewater was not staying in the lagoon long enough to be properly treated.

An engineer who wished to remain off the record, told the Hattiesbrug Patriot, "before katrina the lagoons were like a plane on a crash course. After the power went out for 2 weeks during the Katrina crisis, it was like the wings fell of the plane." It was surrounding this time period that teh smell affecting Hattiesburg became a nbuicense for a number of years.

In 2007 a capital replacement plan by United Water addressed to Mr. Sellers and Mayor Dupree was largely swept under the rug. Sellers left the city abruptly around 2010 and went to work with engineering firm and top Dupree Campaign Contributor [Shows, Dearman, and Waits](#). Since that time Hattiesburg has smelled like Sulfur gas and racked up multiple EPA violations. Now, the city faces a



lawsuit from the [Gulf Restoration Network](#) for the continuous polluting of the Leaf River. Citizens could be on the hook for millions of dollars in fines and attorneys fees. Interestingly, Shows, Dearman, and Waits Engineers stand to make millions fixing the mistakes.



Bennie
Sellers –
former city
engineer and
currently
with
Engineering
Firm Shows,
Dearman, and
Waits.

Recommendations for Operations and Compliance

At the North Lagoon, the flow through the facility is short-circuited by design. The plant influent flow enters Cell No. 2 from the northwest side and exits on the southeast side into Cell No. 1. However, the flow enters and exits from the northeast corner of Cell No. 1 into Cell No. 3, the polishing pond. This configuration effectively eliminates the treatment capacity of Cell No. 1. The planned 2008 North Lagoon Expansion Project will add another treatment cell to the lagoon and change the flow pattern to alleviate this short-circuiting.

A 2007 report by United Water outlined numerous problems with management, maintenance as well as the design of the city's lagoon system.

If you received a bandwidth error trying to view this 2002 In-Pipe document below or the below 2007 United Water Report in the embedded mode or enlarged mode, simply refresh your page and it should show the document. Of click on the "download"

link and the document will open in the window. The red font in the document was added by the firm in a 2007 update to the previous report.

[Hattiesburg-wastewater](#)

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