

QUICK FACTS

- INDUSTRY: Turkey Processing
- CUSTOMER: Butterball, Ozark, AR
- STARTUP DATE: October 2008

HISTORY

Butterball had historically used multiple Habersham DAF units that utilized a significant amount of both power and chemistry to achieve their removal goals. In addition to the high power/chemical requirements, the DAF units were at their capacity limits and Butterball had the need to process additional waters. In order to meet the desired level of performance and in keeping with the company's commitment to improvement and sustainability; Butterball looked to outside support to identify a treatment solution.

VENOR SELECTION

Butterball began the search for a partner in this endeavor by accepting bids from three different companies and even performed some on-site piloting of certain vendor systems. These bids were evaluated based upon the technology, experience in the industry, price, and reference checks. World Water Works were awarded the project based on:

1) Superior Technology

The WWW DAF process was demonstrated to be the most robust, forgiving, and consistent technology of the many that were evaluated. Additionally, WWW's compact design allowed for expanded capacity within the limited space available.

2) References

The quality and enthusiasm behind the references for WWW compared to the others help dictate the ultimate decision. Butterball felt that if WWW customers were that passionate about WWW, then WWW clearly has formed highly valued partnerships which are essential to the success of any project.

3) Superior Experience

The WWW team has extensive experience in food and beverage facilities and has a proven track record in treating wastewaters from turkey, chicken, beef, fish, and various further processing facilities.

4) Superior Experience

The efficiency of the system is demonstrated in the small footprint, lower energy requirements and lower chemical consumption as compared to other DAF Treatment Technologies.



TECHNOLOGY

WWW supplied a single DAF unit to replace the two existing DAF units. The WWW/Resource DAF is used as the primary treatment device to remove fats, oils & greases (FOG); total suspended solids (TSS) and insoluble organics (BOD/COD). The WWW technology incorporates Nikuni dissolved air technology, cross-flow design, plate pack design, and progressive water extraction packed in a polypropylene welded vessel. One of the challenges faced by Butterball at this facility was very minimal equalization. Because of this limited EQ, the WWW DAF design had to be able to handle greater than normal variability inflows as the only source of flow control was VFDs on the feed pumps whose rates were dictated by water levels in the primary sump pit following screening. WWW's robust DAF design combined with a chemical feed system supplied by WWW which had the ability to adjust chemical feed rates based on feedback from a DAF influent flow meter have allowed Butterball to handle these variations in flow with great success. In addition to the goal of increasing treatment capacity while utilizing the same or less footprint, the primary goals of this upgrade were to make Butterballs' treatment process more sustainable. The new WWW DAF unit provided Butterball with the increased capacity that was required in approximately 3/4 of the footprint originally occupied by the previous DAF units. Furthermore, WWW's design required only one (1) 20HP Nikuni Dissolved Air Pump to treat the wastewater whereas the prior DAF system required two (2) 30HP Recycle pumps plus a 15HP compressor. This is a 73% reduction in energy! Lastly, due to the much more efficient DAF design and dissolved air system, Butterball was able to reduce its chemical usage by 30%+ while maintaining the desired removal rates and DAF float thickness.

PROJECT SUMMARY

Butterball was facing many challenges at a facility in Arkansas:

- 1) Need for increased capacity
- 2) Limited footprint for expansion
- 3) Corporate goals of better sustainability in all Butterball Operations

Butterball and WWW partnered together to develop and install a new and improved wastewater treatment system to meet all of Butterball's goals. WWW supplied new a new WWW DAF System and new chemical feed systems to replace the existing system. The new system not only reduced the power and chemistry requirements but did so while increasing capacity in the limited footprint available. Additionally, the system is small enough to provide space for another DAF system should more treatment capacity be required in the future.

