

QUICK FACTS

- INDUSTRY: Dairy Processor, Northwest Region
- DATE INSPECTED: August, 2000
- PROJECT SCOPE: To reduce the Dairy's escalating sewer costs.

OVERVIEW

This dairy was facing escalating sewer surcharges of over \$30,000/month. World Water Works installed the www/ RESOURCE Dissolved Air Flotation system to pre-treat the wastewater. Since its startup, the facility has reduced its wastewater costs by over \$20,000/month. The project provided an ROI of less than a year.

BACKGROUND

The customer produces butter and powdered milk products. Wastewater is generated chiefly from washing, cleaning, and sanitizing equipment on a regular basis. This dairy is the largest producer of wastewater in the district. The city had recently undergone a multi-million dollar expansion of its wastewater treatment facility and was rapidly increasing its rates to pay for this new facility. The dairy's bill was escalating quickly - impacting the dairy's bottom line. Action was needed! However, the results of two other dairy treatment systems' performances caused the customer concern. One similarly sized dairy installed an open DAF system which failed completely. And, another large dairy spent far more money on a biological system than this dairy could afford and the rumor was that it was not working well. The dairy turned to Wesmar, their chemical supplier, for suggestions. Wesmar, an alliance partner of World Water Works, presented the www/RESOURCE DAF (Dissolved Air Flotation) unit as the solution. Because of its unique patent-pending technology, this DAF worked where the others failed.



PILOT TESTING

A pilot treatability study was conducted to verify full-scale performance capabilities and provide an estimate of the ROI of the project.

The treatability study showed that 90% of the Total Suspended Solids (TSS) and 75% of the Biochemical costs by over \$20,000/month. The project provided an ROI of less than a year. Oxygen Demand (BOD) could be removed.

These high removal efficiencies were possible because of www/RESOURCE's patent-pending and proprietary design features. One of the special features is controlled flow velocity separation, allowing control of Reynold's number during the separation process. This feature coupled with highly saturated 30-micron dissolved air and unique solids removal techniques provide significant performance benefits. The system size is much smaller than competitors' systems and operational costs are optimized. The result is significant savings to the customer. Additionally, the customer will have greater flexibility for future growth and increased freedom from new legislation.

CREATIVE FINANCING

Despite the outstanding pilot results, the customer wanted assurance that they did not end up like other dairies in the area. World Water Works and Wesmar provided the customer with a unique finance package, which included chemistry for an extended term. With this package, the customer limited their risk by assuring that both World Water Works and Wesmar would be supporting their interests for a long-time to come, while at the same time increasing the ROI of the project by minimizing the capital outlay.

DESIGN

World Water Works provided a conceptual layout for a new building to facilitate a smooth project. The customer erected a building on-site completely isolated from the manufacturing process. World Water Works provided the www/RESOURCE as well as the components necessary to properly treat the waste stream including feed pumps, chemical pumps, platform, touch-screen controls, etc.

RESULTS

The startup was very successful. Treatment efficiencies exceed treatability study results.

The customer immediately witnessed a reduction in sewer costs. In fact, each month since startup, the savings has increased. The estimated sewer costs prior to startup had risen to \$30,000/month. The customer has calculated since startup system operational costs, sewer, and solids disposal costs all combined are well under \$10,000/month.

Comparing these savings to a typical 3% dairy profit margin, the project's ROI is very attractive.

