



ROGUE

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CASE STUDY: Vegetable Processing Facility
LOCATION: Connell, WA USA
PROJECT: CAF Wastewater System Upgrade
GOAL: Reduce TSS and Lagoon Solids
WORD KEYS: CAF, TSS, Lagoon, Sustainability



FACILITY BACKGROUND

The ConAgra Lamb Weston Connell facility is a large potato processing plant located in the arid desert steppe plateau of Eastern Washington. And in this environment, efficient sustainable use and discharge of water is an important daily business operational concern. With production flourishing there was increased demand on the wastewater treatment system. The wastewater pretreatment system consists of several clarification stages followed by a lagoon system. In 2009 Lamb Weston needed to improve the aeration on the overrun CAF.



SOLUTION DESIGN

The CAF system had an inefficient gas dissolving system. The aeration method was a centrifugal design producing mostly non-functional large bubbles. This system had un-timely break downs over the course of years. Repairs were expensive. Significantly these break-downs launched heavy solids into the lagoon system for extended periods as the plant continued to operate. RPC determined that by replacing the existing aeration system with a new AISI 316 stainless steel **MAX RGT™** regenerative turbine pump, an upgraded CAF was possible. The new system entailed the pump, control valves, gauges and piping. All were to be positioned conveniently adjacent to the CAF effluent chamber. The design recycled effluent water through the pump and would achieve complete air saturation it in a single pass.



FINAL RESULTS

RPC had the new pump delivered quickly. The maintenance crew had the **MAX RGT™** pump installed with quality stainless piping and control components. Upon start-up the upgraded CAF produced much improved TSS results. The **MAX RGT™** pump produced very fine 20-30 micron bubbles. These micro bubbles captured the large portion of insoluble solids and effectively floated them to the surface. Plant personnel found they had a drier, more consistent sludge blanket. They also found the system needed less chemistry to achieve results.



PAY-OFF

Lamb Weston personnel are pleased with the newly upgraded CAF clarification system. Discharge solids have been reduced and water quality improved while the **MAX RGT™** pump operates automatically.

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By Stuart Ward