



CASE STUDY

REPAIR AND REBUILD EFFLUENT COLUMN PUMPS

ARGO INTERNATIONAL AND FLOWSERVE

*Helping Paper Mills With Uptime
And Reliability*

**COST SAVINGS
REDUCTION ON NUMBER OF FAILURES**

CUSTOMER

Pulp and paper mill with up to 1,450,000 TPY capacity

INDUSTRY

Pulp and Paper

APPLICATION DETAILS

Pulp and paper mill main effluent/waste water pit pumps

BACKGROUND

The end user contacted Argo International to help bringing their 1947 vintage Worthington / Flowserve main effluent column pit pumps up to current design and technology. These 8 pumps are critical for the mill and process approximately 70 million gallons of waste water per day to be treated and reused or returned to the Columbia River.

CUSTOMER CHALLENGE

The 69-year-old Effluent Column Pumps operate in extremely challenging service conditions, and over the years, have experienced significant damage and multiple failures at the bearings, sleeves, wear surfaces and shafts, and issues included cavitation, vibration, high radial loads, cyclic loading, corrosion and erosion, ultimately leading to costly repeated downtime.

ARGO INTERNATIONAL SOLUTIONS

Argo International partnered up with Flowserve Pump Company, and proposed a complete rebuild and upgrade utilizing Flowserve's latest engineering designs, technology and materials.

Argo International's team of experts, along with Flowserve's Quick Response Repair Center, formulated a solution to upgrade most materials for these pumps including non-metallic shaft bearings, high strength shaft material, thru-hardened wear rings, optimized impeller trim and a general realignment of all register fits for this large column pump.

The first refurbished pump has been in operation now for over a year and it is still running smooth without issue.

*Right - Effluent water pump as received from the paper mill.
Bottom - Effluent water pump after rebuilt and upgrade.*

