

CASE STUDY

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PRECISION MACHINE & MANUFACTURING, INC.



QUALITY SCREW CONVEYORS REDUCE DOWNTIME IN HARSH PAPER MILL ENVIRONMENT

Port Townsend Paper Corporation produces kraft pulp, paper, containerboard and specialty products by blending virgin and recycled fibers at the company's mill headquarters in Port Townsend, Washington. Keeping the plant infrastructure operating is a major task for maintenance project planner and manager Pete Allen. The plant produces 500,000-700,000 lbs of steam per hr and 22 MW of electric power, processing 14,000,000 gallons of water and 50,000 gallons of wastewater per day. Maintenance responsibilities include waste handling and treatment, and environmental emissions control systems. In addition to planning, prioritizing and scheduling the repairs to the mill's aging power and utilities systems, Pete is involved in designing solutions to improve chronic equipment problems and replace obsolete equipment.



The paper mill environment is notoriously hard on material transport equipment. Approximately two years ago, the company was having serious quality issues with screw conveyors used for conveying and/or dewatering hog fuel (used in firing the boilers), waste sludge, ash and other caustic material involved in the paper production process. Some custom conveyors previously fabricated for Port Townsend by another vendor showed poor weld quality, indicating poor internal Quality Assurance processes.

These quality issues resulted in two failures, which resulted in downtime that caused an estimated \$150,000 in lost production revenue. A third conveyor arrived and was rejected for obvious workmanship quality problems. The screw vendor also missed several delivery deadlines – two of which were scheduled for a pre-planned shutdown. This caused delay in completing jobs, and missed deadlines (and in one case an equipment failure). The problems caused Pete Allen to look for a new screw conveyor vendor.

At the same time, Precision Machine and Manufacturing's sales engineer Darren Coutts made a visit to the Port Townsend plant to look at a job for another project manager and was introduced to Pete Allen. Allen did a brief background check on Precision Machine and discussed Port Townsend's quality standards and delivery schedules with Coutts. Allen was impressed by Precision Machine's competitive pricing and

its willingness to work within the required constraints. Allen evaluated several competitors during this time, and Precision Machine's pricing, service orientation and quality standards won several bids on critical components used in several of Port Townsend's most crucial power and waste handling systems.

"Precision Machine and Manufacturing hits the big three: superior quality, pricing and customer service," said Pete Allen.

"When questions have come up during Precision's fabrication cycle (we have a lot of vintage equipment without proper engineering drawings), Darren immediately calls to discuss it and does an excellent job of involving us in the decision making process. This is a perfect example of Precision's focus on service. Precision has also helped spec and document some of our more unique components."

Since the first Precision Machine conveyors were installed, at least four of the company's screws have been put into use in critical locations.

"Since installing Precision's products, we have seen increased reliability in a couple of key pieces of equipment, and definitely a major improvement in the timing of deliveries (100% of the components produced have been delivered on time)," said Pete Allen.

"In the case of one item with a particularly tight delivery schedule, Darren Coutts left the Precision Machine plant before dawn and personally drove it 250 miles in his own truck to arrive a day earlier than we had agreed upon. This resulted in our staff being able to stage the component and prepare the proper rigging for a successful on-time installation. Precision has also helped us improve the quality and robustness of a couple of pieces of custom-made equipment. I am confident that their design input will result in lower overall maintenance costs for this machinery."

The Port Townsend experience with screw conveyor vendors illustrates the importance of considering price, quality, and delivery in evaluating and selecting suppliers. When conveying harsh, hard-to-handle materials is involved, off-the-shelf conveyors often fail to hold up to the stresses, or don't perform well due to the special nature of the material being transported. Plant operators will save time and money in the long run if they ask their suppliers for recommendations on special solutions for their difficult application problems.

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