





# Enhancing Performance Through Flow Reduction



Operating a pump off its design point has many drawbacks. Inefficiency and wasting energy across a throttled valve both require more horsepower than an optimized system. Running away from the best efficiency point increases risk of degradation, which may cause recurring premature component failures due to higher radial loads, hydraulic instability, and other influences. These factors negatively affect reliability while simultaneously driving up the cost of equipment operation and maintenance. For this reason, opportunities to optimize a pump are extremely beneficial and have a very short payback period. 

The benefits of modifying pump performance to better match system demand were demonstrated in a recent project undertaken at a Gulf Coast refinery. The refinery had a single-stage, double suction (BB2) pump where the required output had been greatly reduced from the original design. The mechanical seals were repeatedly failing, which resulted in frequent maintenance and seal replacements. The refinery partnered with Hydro, Inc to perform a field evaluation of the pump and develop a design upgrade to increase reliability and efficiency. 

Read the [full case study in World Pumps' January/February digital edition](#) to learn what steps were taken to effectively reduce flow for this "bad actor", returning the asset to reliable operation and significantly reducing the cost to operate the equipment.

Do you have an initiative to save energy and reduce the lifecycle costs of your equipment? Hydro's [Energy Edge](#) is a comprehensive program where we work hand-in-hand with end users to understand opportunities for asset optimization and develop plans to execute on chosen solutions.