

## Challenge

The pump was no longer producing the same amount of pressure that it had in years past and was taking longer to perform the same amount of work. The operators noticed a sound similar to cavitation while the pump was running.

Combined with a higher power draw, the electric bill had increased more than twofold.

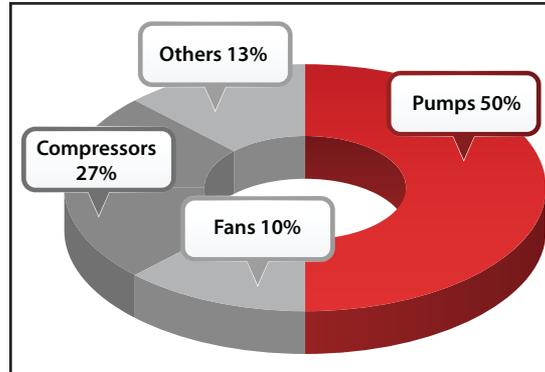


Sandblasting, the significant extent of the wear on the pump cut-water revealed.

## Solution

A wire-to-water efficiency assessment of the pump was conducted to determine actual pump efficiency and cost of operation. As a result, a decision was made to pull the pump out of service for a full refurbishment and application of internal coatings.

- **ARC 858** and **ARC 855** protective coatings were used to restore the internals of the pump to like-new geometry and clearances.
- The wetted surfaces were treated with a low coefficient of friction, high efficiency, ceramic-reinforced epoxy coating system to resist corrosion and erosion. Low coefficient of friction coatings reduce pipe friction losses leading to improved efficiency.



Pump systems energy used.  
(Source: DOE Office of Industrial Technology)

## Results

- Pump performance was restored to OEM specifications
- Run-time was cut in half and power draw was reduced, resulting in less than half the energy consumption prior to overhaul
- The asset is now protected against the deleterious effects of corrosion and erosion
- Based on a new efficiency the payback period was less than 15 months
- Protecting the asset against wear will continue to pay dividends



Application of the coating system not only protects the asset but also reduces surface energy for improved efficiency.