# State of the Art Parts: Impeller with New Hydraulic Design





State of the Art Parts: Hydro Parts Solutions recently supplied a new impeller as part of a project to improve the operation of a pump that was not performing per the OEM curve. The first step in the process was reverse-engineering the used sample impellers. The reverse-engineered model was used by Hydro's Global Engineering team to perform a computational fluid dynamics (CFD) analysis to determine the best possible hydraulic design for the plant's expected operating range.

Once the impeller redesign was completed by the Hydro engineering team and accepted by the site, Hydro Parts Solutions cast 12 impellers out of ductile iron. After the casting was inspected and approved, the impellers were machined at the Hydro Parts Solutions machine shop in Tomball, TX.

Despite the extensive scope of work, Hydro's Global Engineering and Parts Solutions teams were able to perform the reverse engineering, CFD, hydraulic redesign, and part manufacture within six and a half weeks. This work was completed as a routine delivery for our customer. This project highlights the extensive capabilities Hydro has in-house that streamline engineered projects and provide our customers with a superior product in a lead time that exceeds the industry standard.

