

IndustryVoice: Increased ROI vs. Emissions Reduction: New Frac Technology Achieves Both

The new VortexPrime™ fleet from Catalyst Energy Services introduces innovative pump technology via a military-grade direct-drive turbine; results are impressive.

Sponsored by

[Catalyst Energy Services](#)

Wed, 04/20/2022 - 02:00 PM

Natural Gas-Powered VortexPrime™ is Changing the Face of Frac

Today's frac operators are faced with numerous challenges. Front and center are the constant drive to lower costs, increase efficiency and implement better practices resulting in lower impact to our environment. Texas-based Catalyst Energy Services released a new hydraulic fracturing pumping system earlier this year, which addresses all three of these challenges. The savings and efficiency from this technology are impressive – not to mention the notable reduction of emissions that results. Will the new VortexPrime™ change the face of frac operations as its known today? We think so.

The VortexPrime™ hydraulic fracturing fleet introduces patent-pending pump technology via a military-grade direct-drive turbine. The results from Catalyst's field tests are compelling: maximum power via a more compact body, longer service life, fewer cycles resulting in fewer expendables, up to 40% reduced emissions, up to 98% lower waste and a potential of double digit savings in overall systems expenses.



Built to withstand the harshest or most compact of environments, Catalyst designed VortexPrime™ as a self-contained, stand-alone unit; no outside power source is required. Plus, the technology includes a planned short-cycle start/stop capability in minutes, not hours, which sets this direct-drive turbine innovation apart from anything else on the market.

“Catalyst brought together experts who have innovated a clear path to a cleaner future,” said Bobby Chapman, president and CEO of Catalyst. “I have spent more than four decades studying and innovating pressure pumping, and developing VortexPrime™, which will dramatically and literally change the frac landscape, is my proudest professional achievement.”

Catalyst’s top priority in creating VortexPrime™ was fostering a commitment to safety. The direct-drive turbine uses fewer pieces of equipment—decreasing a standard footprint from roughly 20 pumps to about eight—and automated software in order to reduce risk. For most pads, this can reduce a site’s footprint up to 55%.

The smaller fleet allows for faster set-up time—in hours versus days—and the implementation of fracturing technology in tight and remote spaces that have previously presented challenges for standard fleets.

The new fleet technology also enables optimized production. VortexPrime™ minimizes downtime and fuel burn while idle through its unique shut-down and restart technology. This reduces up/down time to three-to-five minutes to get back online versus the hours it takes other technologies.

A VortexPrime™ fleet can reduce up to 40% of CO₂-equivalent greenhouse gas emissions over Tier 4 frac fleets. Additionally, this technology reduces the waste stream by up to 25,000 gallons and more than 16,000 pounds per year.



"We strive, every day, to innovate products that are faster, leaner and better," said Seth Moore, chief operating officer and co-founder of Catalyst. "We have an incredible team that is focused on transforming the energy industry. VortexPrime™ is a testament to the depth of their knowledge and their ongoing commitment to the people, technologies and industries that work to better preserve our world's resources."

New Tech Developed by Industry Veterans

Some might say that Catalyst Energy Services is a relatively new stimulation service company specializing in hydraulic fracturing treatment, having only emerged on the industry scene in 2018. However, recent performance statistics as of the end of 2021 indicate significant experience in a short period of time: more than 9,000 stages and 18,000 pumping hours completed. The energy sector leadership that came together to form Catalyst Energy Services includes 40-year veteran Bobby Chapman and 35-year veteran Seth Moore, in addition to others, who boast years of hands-on experience in the field, engineering and business management. They term the launch of VortexPrime™ as "only the beginning" of the company's focus on innovation and new technology designed and built specifically to positively impact the face of hydraulic fracturing – both in terms of lowering overall systems costs and in reducing emissions.

Catalyst is dedicated to building technology that results in a cleaner future for the energy sector, as well as benefitting the communities in which they serve.

<https://www.hartenergy.com/industry-voice/industryvoice-increased-roi-vs-emissions-reduction-new-frac-technology-achieves-both>