

SPM® SafeEdge™ Automated Relief Valve Control (ARC) System

SPM™ Oil & Gas
A Caterpillar Company

Case Study

THE FACTS



Increases safety on-site



Field-proven, advanced solution



Compact, rugged and durable system design



Daily rental rates with no long-term contracts



Systems also available for purchase

TOTAL SAVINGS



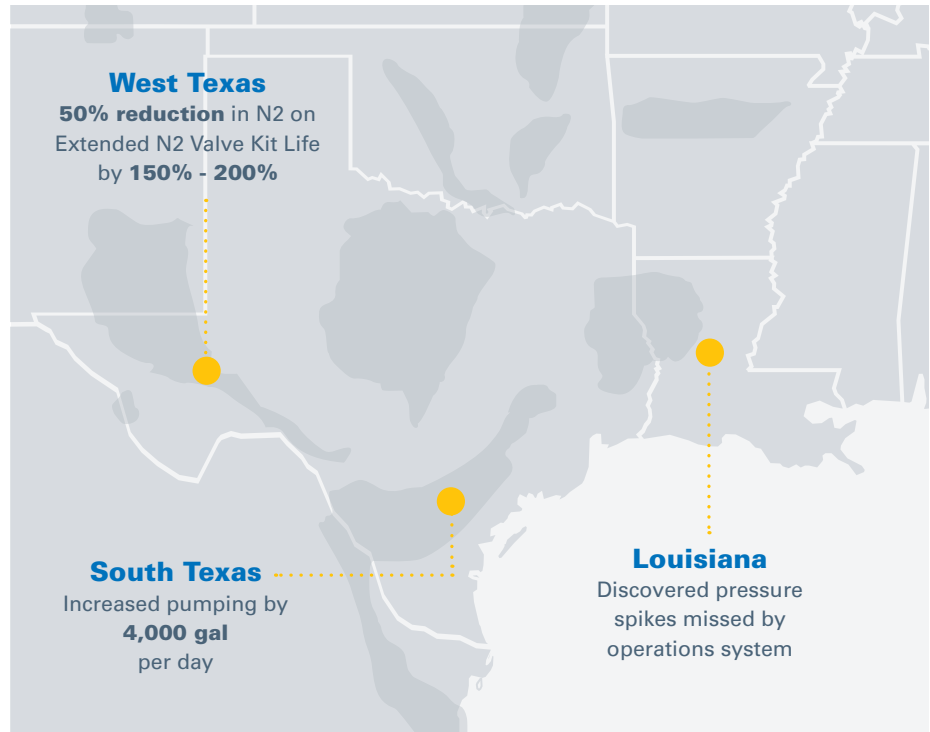
Prolongs valve kit life by
150% - 200%



Reduced nitrogen consumption on-site by
50%



High Speed Data
acquisition and performance
(5 millisecond sampling)



THE CHALLENGE

In extraordinarily challenging times, operators must dig deeper to reduce their costs without sacrificing performance or safety. SMART technologies can often make the difference, saving thousands and improving performance at the same time. High-speed data acquisition tools that generate accurate data then store it for easy retrieval and review are valuable performance enhancers for today's operations.

THE APPROACH

SPM Oil & Gas' SPM® SafeEdge™ Automated Relief Valve Control (ARC) System is a proven, field-tested SMART emergency nitrogen system that quickly reduces expenses and maintenance costs while enhancing safety in the field. With 10 systems in the field and growing, the SafeEdge™ ARC has helped completion businesses to global oilfield services companies save tens of thousands of dollars on valve component replacement kits and improve safety.



SPM® SafeEdge Automated Relief Valve Control (A.R.C.) System

THE RESULT

Across North America, the SafeEdge™ ARC has yielded significant cost savings and improvements operators couldn't have obtained otherwise:

- In West Texas, one customer reduced nitrogen on-site by 50% and increased N2 valve kit life by 150%-200%, resulting in the kits lasting four months without maintenance required.
- A customer in South Texas was able to run right up at max pressure with a much smaller variance. This enabled the customer to achieve a higher pump rate all the

continued on back side

CASE STUDY

time. The efficiency gains were tremendous at 1,100 minutes of pump time a day - that's 3,000 to 4,000 more gallons of fluid pumped every day without any issues with the unit.

- In East Texas/Louisiana, a system detected multiple pressure spikes that were missed by the operator's system due to signal dampening, resulting in the system protecting the site and its people due to its high sampling rate and accuracy. The system was later approved as an acceptable electronic relief system after reviewing the systems data charts that are automatically generated and stored.

THE INNOVATION

SPM Oil & Gas' SPM® SafeEdge™ ARC System is an intelligent solution that enables operators to remotely set and control SPM's proven line of back pressure relief valves while monitoring treating-line pressure to prevent over-pressuring of treating iron. This SMART system helps minimize the occurrences and impact of site incidents caused by over-pressured iron, increasing safety in the field.

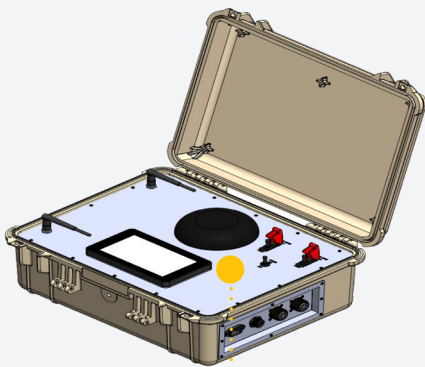
The SafeEdge™ ARC system is so compact it could easily fit into a Toyota Prius and does not require any fork lift or heavy machinery to set up on-site. It's equipped with a network infrastructure built into a durable field case that allows the operator to control the system with just a web interface or any Wi-Fi-enabled device; smartphone, tablet or laptop.

Setup is easy and quick with this SMART system, allowing settings to be fully customized for individual needs to generate automatic notifications and emails while workers are safely away from the flow line. The SafeEdge™ ARC is so technically advanced that its five-millisecond monitoring and recording capabilities can react and relieve pressure faster than other systems. If a pressure-relief event occurs, the SafeEdge™ ARC system automatically logs high-speed data locally and publishes it to a secure web portal. Quick reset helps to minimize downtime, and adjustable reaction filters allow the system to correctly function with any variation of fluid system or specialty site requirements.

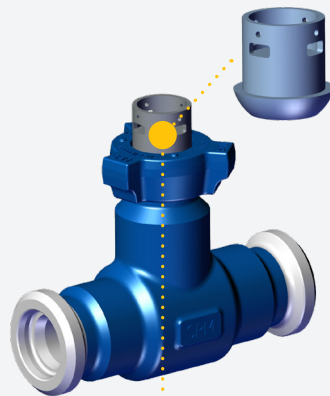
The SafeEdge™ ARC also reduces N2 consumption and prolongs the life of N2 valve kits by as much as 150%-200% which can affect operators' bottom lines.

To save money and increase in-field safety, the SafeEdge™ ARC is an easy-to-implement investment that quickly pays for itself.

MAJOR COMPONENTS



Control Box



Pressure Transducer



Valve Box