Arrow embraces sour side of compression

U.S. LNG production skyrockets

FW Murphy’s Centurion C5

Cooper’s horizontal gas engine-compressors
Siemens working to

Reliability, field services key in oil and gas segment

COMPRESSOR TECH spoke with Matthew Rickert, business development, Gas Turbines for Siemens, about the FPSO projects and other topics. Rickert joined the company as part of the Rolls-Royce Energy gas turbine acquisition in 2014. That same year, Siemens acquired Dresser-Rand. He was with Rolls-Royce for five years before the acquisition.

WHAT TRENDS ARE YOU SEEING IN THE FPSO MARKET?
We're seeing a lot more interest in DLE (dry low emission) technology for combustors. We haven't had a lot of projects that have gone forward with DLE, but we're getting a lot more questions in the early phase of projects that, I think point to customers moving towards DLE. What DLE - dry low emissions - does is allows you to reduce your NOx and your CO emission levels without using water. So you can basically swap out the existing turbines today, reduce your emissions by 90% with that DLE technology and still get good, reliable performance. In the past, DLE has not been as popular offshore because the reliability figures for DLE were not as strong as for the non-DLE engines, but we're getting to the tipping point now, where our DLE engines are just as reliable as the non-DLE engines. In addition, the fuel flexibility of DLE engines is rapidly approaching the capability of standard combustion turbines. I think we're going to see that as a growing trend for offshore and FPSO applications.

HOW BIG OF A MARKET IS FPSO FOR YOU SIEMENS?
Traditionally, it has been a big market for us and it remains a key market focus. Reliability and service capability are two critical requirements for offshore operation and both are key areas of strength for Siemens. FPSOs have been an area of focus for us to grow and after the acquisitions of Rolls-Royce Energy and Dresser-Rand, we've seen some growth in the FPSO space due to our expanded gas turbine and compressor portfolio and expanded field service capability.

HOW DO YOU DIFFERENTIATE YOURSELF AGAINST YOUR MAJOR COMPETITION?
The biggest differentiators for us are: number one; we've now got the industry’s largest service network for gas turbines and compressors. Service in oil and gas is absolutely critical. The turbines are providing power for the vessel and if power goes down, they're not producing, and that can

The floating production, storage and offloading (FPSO) market is a key one for Siemens. The company won a contract to supply Statoil a compressor train for a floating FPSO vessel in the Johan Castberg offshore. In 2018, the company also won contracts to place SGT-400 gas turbine generators and electric motor-driven (EMD) DATUM compressors for an FPSO in the Mediterranean, SGT-A35 gas turbine generators and SGT-A35 compression trains with DATUM compressors for two FPSO projects off the coast of Brazil.
always had an annual inspection. We come out and do a borescope inspection and now with more of our digitalization tools, the ability to monitor the engines during operation and put that into our analytic software, we’re looking toward pushing those intervals out further and further. We’re getting a lot of customers questioning ‘do we need to do borescope inspections now? Are we at the point that we can rely on the analytic software to give us signals when there’s an issue?’ And so we’re pushing in that direction. We’re not fully there yet, but I don’t think we’re far off.

WHAT KIND OF QUESTIONS ARE YOU HEARING FROM POTENTIAL CUSTOMERS?

In the early stages, they all want fleet statistics: How many units do you have running, what’s the availability, what do the reliability numbers look like? And then what are your service intervals? There’s a big push in the industry right now to reduce the amount of scheduled inspections. So right now, traditionally gas turbines have always had an annual inspection. We come out and do a borescope inspection and now with more of our digitalization tools, the ability to monitor the engines during operation and put that into our analytic software, we’re looking toward pushing those intervals out further and further. We’re getting a lot of customers questioning ‘do we need to do borescope inspections now? Are we at the point that we can rely on the analytic software to give us signals when there’s an issue?’ And so we’re pushing in that direction. We’re not fully there yet, but I don’t think we’re far off.

THIS INDUSTRY CAN BE SLOW TO ADOPT NEW THINGS. HAS THAT BEEN AN ISSUE WITH DIGITALIZATION?

It’s definitely an issue. As you said, this market is slow to change, but what’s pushing them is, with tighter margins on these oil and gas projects, they’re looking for opportunities to improve the margins. They’ve really become aware of the cost of downtime and so they’re seeing that digitalization can not only eliminate unscheduled downtime, but can also eliminate scheduled downtime. So all of that translates right back to the bottom line of the project. A big area of focus on our packages is on minimizing the downtime. For example, the amount of time it takes to change out a component, when we do have to go out and do a scheduled service event or an unscheduled service event. Most of the components that need to be serviced on a regular basis, we have brought to the front end of the packages. We’ve located them in areas where you don’t have to remove grates to access them. We’ve utilized digitalization tools by building a 3D model where you could actually simulate walking through a gas turbine package. We then brought in our service engineers to actually simulate how you would change out a component. They could walk through and say, ‘well, you know, this pipe’s kind of in my way. Is there any way we could relocate the pipe? Let’s make it easier to get in and out.’

Siemens has won a contract to supply Statoil a gas turbine driven compressor train for a floating production, storage and offloading (FPSO) vessel in the Johan Castberg oilfield. The compressor chain incorporates a 41 MW SGT-750 gas turbine, which will drive two DATUM compressors. This will be the first time an SGT-750 will be used in an off-shore application, according to Siemens. In 2018, the company also won contracts to place SGT-400 gas turbine generators and electric motor-driven (EMD) DATUM compressors for an FPSO in the Mediterranean, SGT-A35 gas turbine generators and SGT-A35 compression trains with DATUM compressors for two FPSO projects off the coast of Brazil. Siemens also supplied aeroderivative SGT-A35 gas turbine and associated auxiliary systems for Nova Gas Transmission Ltd. pipeline expansion.