

THE MERITS OF METERING IN FIELD DEVELOPMENT

James Holt, vice president, metering, production controls at Proserv explains how inaccurate measurements can prove very costly

Technological innovation, newly adopted legislation and geopolitical issues – are just some of the key factors impacting the direction of travel of the hydrocarbon industry. But the true bottom line, affecting a company's strategy from exploration and production right through to recruitment and research and development, is the price of oil and gas.

In recent years, the uncertain nature of commodity prices, where a 75 per cent drop in the price of a barrel of oil occurred in the space of barely 18 months, has

taught operators, often the hard way, to become more cautious about investment and their exposure to risk.

A new philosophy around maximising returns, extending the life of maturing assets and keeping on top of efficiency has enabled a raft of specialist firms, including Proserv, to utilise their dedicated technological solutions, to support operators in monitoring the performance of key equipment, anticipating any potential malfunctions or threats of downtime and lost revenue.

But this is where metering comes

significantly to the fore. Much of what we do at SGC Metering, Proserv's newly acquired metering service, simply boils down to the saving of money.

Accuracy is vital

Fiscal metering allows an operator to measure exactly how much oil or gas they are producing, directly impacting their revenue streams and future profits. When a custody transfer takes place (a monetary transaction where an agreed amount of a substance passes from



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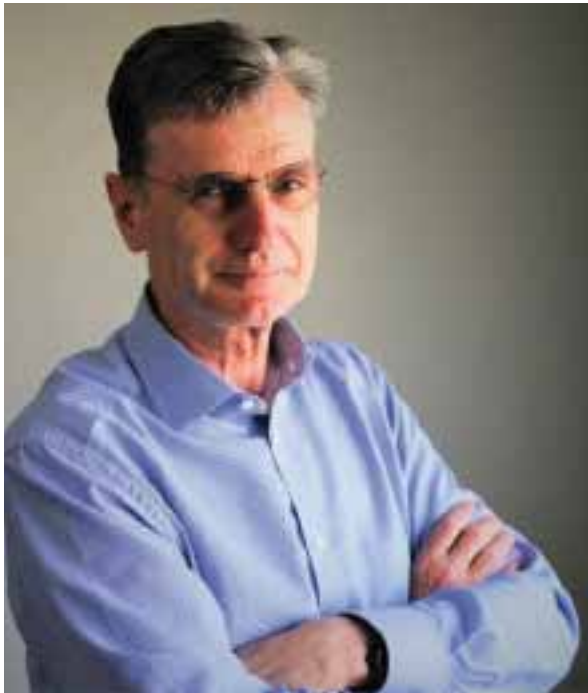
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Tel: +9714-8865119 / **Fax:** +9714-8865118

Email: sales@sso.ae / info@sso.ae

Website: www.shreesteeloverseas.com



James Holt

one firm to another), accuracy is vitally important for both the buyer and seller. If an operator's metering equipment

has miscalculated the amount of oil changing hands, it could either mean millions of dollars of lost revenue or, potentially even worse, it could lead to the recipient being over-charged as the quantity transferred has been over-estimated.

For an operator, in the new 'lower for longer' environment, where every drop from every barrel matters, to give away some of its product for free is just irresponsible. To be found to be over-charging clients during transactions could do untold reputational damage, theoretically even more costly to an operator, with expensive litigation to follow.

It is crucial for an oil and gas producer to make sure it possesses an effective all-round supervisory measurement system,

no matter where the oil price might be headed. When prices are severely lower, as in early 2016, a metering slippage of 2-3 per cent could mean almost \$1 of every barrel generated is lost and this is hugely significant when margins are increasingly tight.

By the same rationale, at a giant oilfield with production of 1 million barrels per day and oil prices healthy at around \$100 a barrel, a metering inaccuracy of just 1 per cent would amount to a staggering \$274 million worth of exposure to miscalculation per annum.

When operators are sensibly ramping up operational maintenance procedures to make sure they run a tight ship, such oversights in the effectiveness of their metering solutions could arguably undermine their entire business model.

So it would seem a no-brainer for operators to prioritise the installation of a metering supervisory computer system that adheres to the latest technical requirements - yet a number still remain largely unaware of the inevitable financial costs of inaccurate readings.



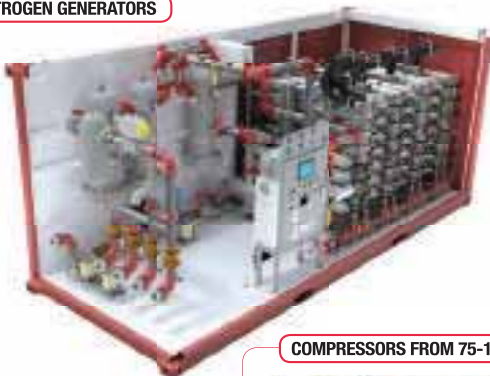
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Adapting to the downturn

By contrast, during the downturn, at SGC Metering, we encountered many other operators seeking to utilise our specialist services but with less outlay and with more modest targets.

In turn, we also had to adapt our own strategy to reflect those market conditions and we began to deal more with obsolescence management and life extension, as fewer clients were looking to make operational expenditure (OPEX) commitments on new metering systems.

As the caution around OPEX spending continues, some operators value on-going personal support from metering experts so that they can keep abreast of how their software is performing month-to-month and can plan anticipated future investment more precisely as and when their equipment finally becomes obsolete.

Relationships within the oil and gas industry tend to develop organically over time and often operators will forge strong partnerships with trusted, reliable suppliers and for smaller, more flexible metering outfits like us, capable of turning around solutions quickly, to become the de facto system provider of choice is a major priority.

But ultimately, keeping one step ahead of the evolution of an operator's metering requirements is the only sure-fire way of succeeding in this segment.

For instance, production deals these days rarely involve just one operator and it is more likely that multiple partners could constitute a new development. An accurate, transparent metering system therefore becomes as crucial to the partner with a 5 per cent minority holding as it does to the national oil company accruing hundreds of thousands of barrels per day of crude. Each party has a vested interest in making sure they are getting what is agreed in the contract.

Increasingly stringent legislation is another particularly powerful reason for producers to make sure their measurements are as accurate as possible.



Proserv's Production Controls business unit, which SGC Metering is a part of, is based in Jebel Ali, Dubai.



A control panel with a metering supervisory computer and Emerson S600+ flowcomputers

Governments around the world proactively seek to recoup their taxation revenues and operators in the likes of the UK and Norway are not prepared to be short-changed.

Similarly, new regulations aimed at addressing environmental issues have meant that operators need to be clear and

precise about their emissions targets and effective metering makes sure they stay on top of how much flare gas, fuel gas and produced water they are generating. Exceeding these agreed emissions levels could result in substantial financial penalties.

Globally, this is an increasingly pressing issue with the likes of the U.S. and the countries of the Arabian Peninsula joining European states in seeking to moderate their emissions and metering specifically for environmental reasons is a significant growth area.

As the industry continues to innovate and extraction techniques develop, the latest metering systems equally need to meet new technical challenges and adapt to measuring more multiphase fluids, shale oils and gases and heavy oils.

But, more than anything, adjusting to the new normal of cautious investment, limited OPEX and operators preferring upgrades and life extension to new pieces of equipment, while recognising the importance of service and support, is the template to follow in the metering sector.

When an accurate metering system not only maximises revenues but can offer transparency through the production process and facilitates all parties to receive a fair and equitable share of an asset's output, there will always be a need for such a key solution.