



“Chemical dosing is critical to flow assurance and well integrity.”

“More than 50% of all pipeline incidents are directly related to corrosion,” Bhubinder Singh of Deepwater Corrosion Services Inc.

“Study says corrosion costs US firms \$440 billion/yr”, Oil & Gas Journal, 21 March 2001

What if...

- You could **confidently spend less on chemical additives without compromising your flow assurance and well integrity program?**
- You could **reduce maintenance requirements and remotely verify meter performance?**
- You could **confirm chemical quality while injecting?**

Is fear of meter inaccuracy driving up your chemical injection costs?

Chemical injection is an integral part of many assets in a production management plan. Whether to ensure flow with hydrate inhibitors and demulsifiers or to protect well integrity with biocides and corrosion inhibitors, chemical injection is essential to your operations.

However, just a handful of parts per million under on a dosage can lead to catastrophic failure and loss of asset - and you just don't trust your meters, so you're spending hundreds of thousands of dollars in excess chemicals to protect from meter inaccuracy. You need a better way to ensure long term production without compromising your asset - or - your budget.

Managers we talk to tell us about challenges like these:

“I'm pumping 10-20% excess chemicals in a year just to protect from meter inaccuracy.”

With the potential for catastrophic consequences, under-dosing of chemicals is risky and with the uncertainty in meter performance and health, you regularly over-dose by 10-20% to guarantee coverage. Chemical excess costs are significant, and the additional tankage is tying up valuable deck space on your platform. You need more reliable measurement and dosing to reduce excess chemical.

“Meter maintenance is a daily challenge with the harsh environment and additives we are using.”

Meters confirm compliance with your flow assurance and well integrity plan, but ensuring trained personnel are regularly verifying meter performance is demanding. To complicate matters, the corrosive environment offshore coupled with additive metallurgy requirements can challenge your efforts to run a reliable operation.

“I had no warning from the meter that my injection pump had stopped performing to requirement, or that my chemical additive was out of spec.”

Maintaining continuous injection of the right chemical is absolutely critical in some operations and timely notification of an injection failure is vital to your operations. It is unacceptable for a meter to not provide notification of failure to stay within set flow limits. Especially when blending or recovering additives on site, chemical quality control can be challenging and lead to further overdosing.

CHEMICAL INJECTION

In today's economic and operational environment, a compromise in well integrity or a failure in flow assurance can have substantial impact on your bottom-line. You need confidence that your chemical injection program is being efficiently executed.

Using Micro Motion Coriolis flowmeters with other solutions from Emerson will give you the reliability and accuracy you need to confidently and efficiently manage your chemical injection plan. These solutions will minimize uncertainty on pump performance and allow you to quickly diagnose problems to get your program back on track.



HAVE CONFIDENCE IN YOUR MEASUREMENTS

With no moving parts, wide turndown and high accuracy, you can greatly reduce measurement uncertainty when you work with Emerson. Maintenance requirements will be significantly reduced and you can confidently reassess your required chemical inventory excess.

REMOTELY VERIFY METER PERFORMANCE

Smart Meter Verification and diagnostics will allow you to remotely identify any changes in meter performance and allow your maintenance team to focus efforts on value-added operations. Additionally, you'll be able to track Meter Verification as part of an auditable quality compliance program.

VERIFY CHEMICAL QUALITY

Coriolis density measurements can be used to confirm chemical specifications. This is especially useful when blending offshore or recovering produced chemical for reinjection.

"We've shown that we can really get the reliability of the injection up by making some simple hardware improvements ... [We] are delivering the right amount of inhibitor for the right amount of time."

– Scott Grove, BP Inherently Reliable Facilities Manager, BP Magazine, Issue 2, 2011

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