



EMERSON™

FOUR KEY THINGS TO KNOW ABOUT COMPLIANCE

EMERSON'S FLOW SOLUTIONS TREND REPORT

*How worldwide environmental,
health and safety regulations
impact flow compliance in
every sector*



Compliance is a moving target; governments enact and update rules, laws and regulations constantly. In fact, the Environmental Protection Agency (EPA) proposed six new regulations in March 2016 alone and had three more moving closer to administration.¹ That snapshot represents a single compliance organization's actions over a 31-day period.

In the United States, the Environmental Protection Agency proposed six new regulations in March 2016.

Presently, more than 1,300 rotary rigs are working worldwide drilling for oil and gas² along with nearly as many deep water rigs.³ Add the world's plants and mining operations and it stands to reason there would be countless compliance issues for any business involved.

With Emerson technologies, compliance is no longer a burden and we can even help uncover new opportunities. The alignment of the Emerson's flow technology offerings from Micro Motion™, Daniel™, Rosemount™, and Roxar™ provides expert insight to keep you on top of the constantly changing compliance puzzle — no matter where in the world you work.

#1: COMPLIANCE

WITH GREENHOUSE GAS REGULATIONS CAN ALSO LOWER MEASUREMENT COSTS

According to the Swiss ETS and the United Nations “COP21” Conference on Climate Change, Emerson is ahead of the curve on greenhouse gas (GHG). For instance, a major hydrofluorocarbon (HFC) refrigerant producer in the United States recently faced a sizeable capital investment and recurring costs to comply with EPA 40 CFR part 98: \$300,000 up front and \$300,000 every year after that.

Emerson played a large part in negotiations during the Industry Comment and Implementation phase as regulations were being developed. As a result, requirements were rolled back to 1% for daily mass balance from 0.2% and the manufacturer’s recommended schedule for calibrations was accepted. Emerson’s Micro Motion Coriolis technology with Smart Meter Verification, Smart Wireless THUM and Gateway were installed, allowing the customer to perform an in-situ check. This move eliminated the need for expensive and inconvenient wet calibrations and cut measurement costs in half.

#2: REGULATIONS FOR WELL WATER EXTRACTION CAN HELP YOUR BOTTOM LINE

A large refinery was required by the EPA in the state in which it did business to account for the well water it extracted from the ground. Reporting the volume was done with magnetic flow meter technology, measuring and compiling totals in each of the refinery’s seven water wells.



One of the state EPA's requirements included having the meter calibration to be verified annually. To stay within compliance, two instrument technicians would remove meters and ship them to the flow lab for calibration before installing spare meters. In all, four spare meters were needed on a rotating basis, increasing inventory and labor costs.

Installing a Rosemount 8700 flow meter with in-situ meter verification diagnosis capabilities solved the problem. The new meter satisfied the state EPA's verification requirements without having to remove the meters from the line every year. Total savings? \$49,200.

#3: CONSUMPTION OF FUEL IS CUT AND SAVINGS IS INCREASED

The fabrication of liquid crystal displays (LCDs) calls for large amounts of steam. Natural gas, combustion air, and boiler feed water go into multiple boilers, the natural gas mixes with the air and is combusted, converting the water to process steam. The whole practice makes up a large percentage of LCD development costs.

A South Korean producer could not meet downstream process requirements in its steam production and needed to report natural gas usage to calculate emissions for compliance purposes. Solving these problems was mission-critical. Fortunately, the solution was as simple as replacing their existing gas meters with Emerson's Micro Motion Coriolis technology that features loop-powered 2-wire transmitters. The move cut their gas consumption by 10% and shaved \$1.2 million per year from operating costs, while also putting them in compliance with GHG reporting requirements.

By replacing their existing gas meters with Emerson's Micro Motion Coriolis technology, the customer cut gas consumption by 10% and reduced their operating costs by \$1.2 million per year.



#4: SWITCHING

FROM NUCLEAR DENSITOMETERS TO CORIOLIS METERS ELIMINATES COSTS ASSOCIATED WITH NUCLEAR REGULATIONS

An oil services company needed to complete the task of on-site cementing, where a circulating blender spins at all times. Cementing is crucial to well construction because cement supports the casing, keeps it in place, protects it from corrosion and isolates formations from each other as well as from the production zone. Consistent slurry is a must.

That's why nuclear densitometers are on-site. They monitor and report cement quality as the process takes place, but add costs in the form of licensing, transportation and disposal.

Replacing the densitometers with non-nuclear Emerson's Micro Motion Coriolis sensors allowed real-time monitoring of flow and density, delivering accurate, robust and repeatable measurements throughout the process. In addition, nuclear safety issues — like licensing, storage, record keeping and disposal — were eliminated.

It's just one more way the oil and gas industry has been able to turn compliance issues into money.

CONCLUSION

The only consistent aspect of compliance is that more regulations are always on the way.

For these companies and so many others, rules including the new Quad-O EPA regulations, compliance issues associated with acid rain, directives for sulfur dioxide emissions and well pad restrictions add up. The only consistent aspect of compliance nowadays is that more regulations are always on the way.

Emerson's Flow Solutions team delivers expert insight, products, knowledge, software, and understanding regarding the compliance challenges you and your customers face. That's priceless in oil and gas production, chemical plants, power plants and just about any other endeavor where federal, state, provincial or local compliance regulations need to be followed — and businesses need to thrive.

Find out more at
www.emersonflowsolutions.com

¹ <https://www.epa.gov/laws-regulations/actions-initiated-month#mar16>
² <http://www.wtrg.com/rotaryrigs.html>
³ <https://www.ihs.com/products/offshore-oil-rig-data.html>

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