


NAVIGATING THE STORMY SEAS OF TODAY'S POWER GRID



The power industry is facing **perfect storm** conditions that make consistent reliable energy delivery more difficult.

S.O.S.  The systems you have weren't designed for operational flexibility — About **60–80%** of all (coal) power plant failures are related to cycling operations¹

S.O.S.  Renewable energy sources don't deliver a steady flow into the grid — To succeed, power and utility organizations must plan around economic viability and develop operational agility²

ALL HANDS ON DECK  The shift to natural gas is inevitable — Natural gas-fired generation is projected to grow **3.1%** a year through 2038²

 Shrinking and less knowledgeable staffs — **Half** of the electric utility workforce will retire within **10 years**³

What's more, over the coming decades the power generation industry will face a daunting challenge: **meeting global energy needs.**

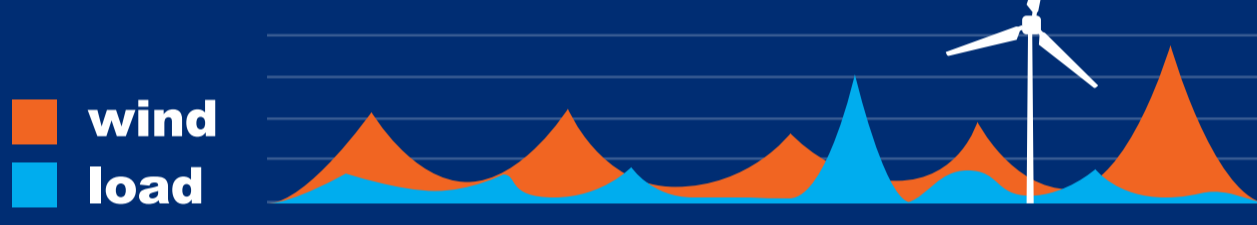
CREATES A PERILOUS SET OF CONSEQUENCES




 **Legacy instrumentation** does not have predictive measurement capabilities

 **Frequent cycling** drives equipment to failure

 Your staff is stressed to **maintain course**




Load and wind generation are essentially **random**⁴

 **↓80%** Solar plants can drop in production by 80% when clouds pass⁵

GET PROACTIVE





 Install predictive diagnostic solutions to open a window into equipment performance. Respond quickly to emerging problems. Plan downtime to gain greater operational efficiency.

 Combine Emerson asset management software (AMS Suite) with flowmeter verification tools, like Smart Meter Verification (SMV). Use them to gain insight into process and instrument health, and to optimize reliability and plant uptime.

GET MORE RESOURCES



 **Automate processes to offset resource losses:** Multivariable diagnostic capability built directly into equipment provides actionable information for embedded expertise.

 **Augment your team:** Consulting and Technician Expertise Services work onsite and streamline your planned outages or perform instrument and valve maintenance services.

 **Get smarter:** Training to take advantage of the embedded diagnostic technology in today's instrumentation will improve asset effectiveness.

MICRO MOTION'S SOLUTIONS AND SERVICES HELP YOU WEATHER THE STORM



 **INSTRUMENT & VALVE SERVICES**
IMPROVES PLANT RELIABILITY

 **CONSULTANTS AND TRAINING**
ENHANCES STAFF EFFECTIVENESS

 **AMS SUITE & SMART METER VERIFICATION**
OPTIMIZES INSTRUMENT PERFORMANCE

SOURCES:

¹ Business Pulse, Exploring Dual Perspectives on the Top 10 Risks and Opportunities in 2013 and Beyond, "Power and Utilities Report, 2013"

² Make Your Plant Ready for Cycling Operations, Power, 2011

³ U.S. Bureau of Labor and Statistics, 2010

⁴ www.wind-watch.org/faq-electricity.php

⁵ www.technologyreview.com/news/534266/hawaii-solar-push-strains-the-grid