

Virtual Flow Metering

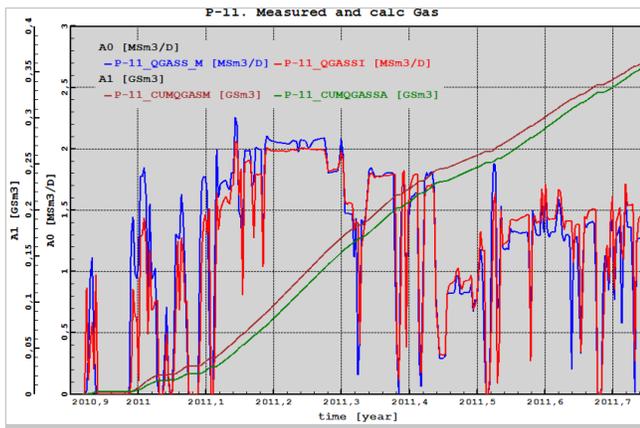
METTE VFM supports OPC DA servers as data input, allowing connection to online data streamed directly from field devices and sensors. Through OPC DA, METTE can interface all relevant production data to perform near-real-time virtual flow metering and production monitoring.

VFM is an integral part of METTE

Emerson's METTE solution is the engine for the Virtual Flow Metering System, which focuses on production monitoring in live producing fields. From production data in Excel, METTE can back-allocate production rates based on historical data from sensor measurements and equipment from producing fields.



▲ Advanced diagnostics allow users to assess the performance of the VFM algorithm.



▲ VFM is applied to a gas producing well (P-11) comparing reference gasrate in blue with estimated gasrate from METTE in red.

Features

- Web-based
- For data acquisition - real-time access to sensors and equipment readings in the production system
- Individual and role-based accessibility to selected features
- Customizable to existing instrumentation and field layout
- Ability to access multiple field projects in one user interface and choose the relevant one
- Takes both well and network model sensors into account
- New constraints can be set or changed at any time
- Model calibration multipliers can be imported or manually input, and easily modified and logged at any time
- Customizable sensor weights
- Report of last events and user updates through History Log

The Advantages of VFM

- Excellent and proven performance on both calculation speed and large system handling capacity
- Minimal downtime by effective response to events that impact flow, from reservoir to topside
- Easy to access and use
- Added security through customized, role-based accessibility
- Use History Log to enable restoration of previous versions in case of a data loss event
- A single server can handle hundreds of wells
- Enhanced user flexibility through the ability to set/update model constraints online

Interoperability

- OPC DA Servers
 - SCADA (OpenEnterprise™) and DCS (DeltaV)
 - Production historians - OSIsoft PI, Aspen IP.21
- Tempest™ VIEW
- Excel



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