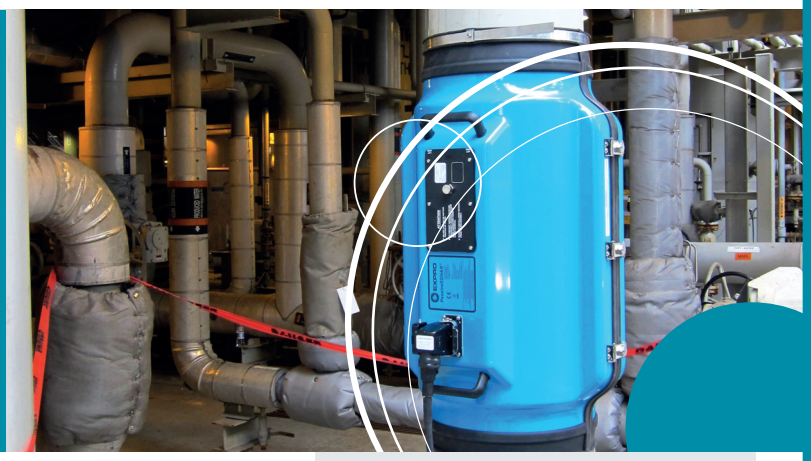
EXPRO

WELL FLOW MANAGEMENT™

/ Expro Excellence Meters

Using Expro's sonar flow meters for water treatment floatation cell optimisation



Objectives

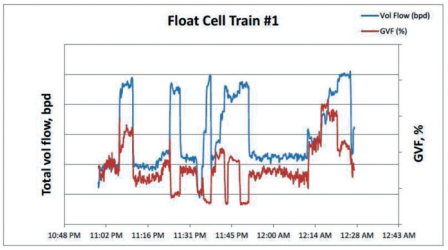
- Expro was contacted by a major operator in the Gulf of Mexico for a trial demonstration of Expro's sonar expertise against the incumbents meter currently in place

Expro Excellence

- Expro installed a 12" PassiveSONAR™ flow meter to the float cell system to monitor the total flow rate of the produced water/recycled gas mixture, in addition to monitoring the mixtures gas void fraction (GVF)
- Testing over a wide range of fluid loading:
  - Varied produced water flow rate and regime
  - Varied injection gas pressure and flow rate
- Technology used: 12" PassiveSONAR flow meter; PassiveSONAR GVF output; Well Test Studio™
- The trial validated the PassiveSONAR flow meters suitability for float cell process monitoring and optimisation:
  - Two-in-one measurement of volumetric flow rate and GVF
  - Non-intrusive and quick installation
  - No process interruption
  - No leak potential and no pressure drop
  - Minimal HSE risk and no maintenance requirements
  - Easy to integrate the digital output into the existing DCS

Value to client

- Expro's PassiveSONAR flow rate measurement compared closely to the existing meter, however Expro's solution had the added benefit of also monitoring GVF – the GVF measure can be incorporated into the floatation cell control loop to optimise the system performance
- The sonar meter:
  - Accurately measured the volumetric flow rate of the mixture
  - Measured the (GVF) of the water/gas mixture
  - Monitored the combination of the two measurements (volumetric gas flow and GVF) for individual phase flow rates



Floatation cells are used to remove contaminants from produced water to meet water quality standards for discharging the treated water overboard. These systems involve the introduction of recirculated hydrocarbon gas in the form of fine gas bubbles that attach to the oil and fine solids in the produced water to float them to the surface where they are removed.

- GVF measurement is provided
- Non-intrusive and quick installation
- Real-time measurement
- No process shut down
- No modifications on the surface lines
- Cost effective
- Accurate
- Minimal HSE risk and no maintenance requirements
- Easy to integrate the digital output into the existing DCS

Contact

For further information, please visit:
www.exprometers.com/contact
or call **+1 (203) 303-5686.**