



CoastalFlow™
GAS MEASUREMENT, INC.

Phase I Training Agenda

Measurement Fundamentals

How gas is produced and delivered

- Free Flow
- Compressed
- Plunger / Intermittent
- Recompletions
- Plug & Abandon
- Gas Contracts

Types of Production Equipment

- Separators
- Line Heaters
- Heater Treaters
- Coolers
- Dehydration Units
- Amine Units
- Compressors

Types of Gas Measurement

Measurement Segments

- Primary Element
- Secondary Element
- Tertiary Element

Orifice Measurement

- Design and Application
- Pros / Cons

AGA 3 Calculations

- 1985
- 1992

Turbine Meter

- Design and Application
- Pros / Cons
- AGA 7 Calculations

Ultrasonic Meter

- Design and Application
- Pros / Cons
- AGA 7, AGA 9, AGA 10 Calculations

Contact Information



CoastalFlow[™]
GAS MEASUREMENT, INC.

Positive Displacement Meter

- Design and Application
- Pros / Cons
- AGA 7 Calculations

Coriolis Meter

- Design and Application
- Pros / Cons
- AGA 11 Calculations

Super Compressibility Calculations

- NX-19
- AGA 8
- Gross 1
- Gross 2
- Detailed

Standards and Recommended Practices

- Industry Standards
- AGA
- API
- GPA
- Customer/Company Standard Practices

Electronic Measurement Systems

- Basic Electricity
- EGM
- SCADA
 - Wireless
 - Licensed/Unlicensed Radios
- Automation
- Valve Control
- Equipment Monitoring/Alarms

Mechanical Chart Recorders

- Chart Drives
- Chart Ranges / Type (Linear, Sq Root)
- DP,SP, & TP Ranges

Advanced Topics

Gas Quality Determination / Gas sampling

- Basic Gas Chemistry
- Base Conditions
- Wet or Dry BTU

Contact Information



- GPM
- Water Vapor and Inert components
- Stain Tube tests
- On-line GC

Meter Inspection Housekeeping

- Reporting
- Field / Office Communication
- Test Equipment
- Maintaining Inventory
- Keeping vehicle in order

System Balancing

- Check vs. Sales Comparison
- Common Sources of Measurement Error
- Orifice Plate / Meter Tube sizing
- Compressor Pulsation

Safety

- Meter Station / Production Site
- High Pressure vs. Low Pressure
- H2S
- Driving

Witness Testing

- Developing good relations with technicians
- Witness testing checklist
- Documenting found & left measurement conditions
- Recognizing indications of measurement error
- Troubleshooting volume differences

Hands on Training

- Repetitive operation of a dual and single chamber orifice fittings
- Dual chamber fitting troubleshooting & repair
- Repetitive configuration, verification, calibration & troubleshooting of 3 EGM devices
- Repetitive verification, calibration & troubleshooting of Barton chart recorders
- Installation of EGM devices and Chart Recorders (tubing 101)
- Installation/Maintenance of continuous samplers
- Spot gas sampling techniques
- Gas quality determination / stain tubes

Contact Information