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**Ohio Gas Association
Pipeline Engineering 101 One-Day Seminar
April 26, 2017**

- 8:30 Registration
- 9:00 Flow Modeling
- Load estimating
 - Pipe sizing
 - Available software
- 9:30 Class Location Studies & HCA Evaluations
- Code requirements
 - Class location unit
 - Sliding mile
 - Clustering
 - Perpendicular/parallel vs. arc method
 - Class location design & testing requirements
 - HCA code requirements & analysis methods
 - Identified sites
 - PIR calculations
 - Evaluation buffers
- 10:30 Steel Pipe Design
- Design formula for steel pipe
 - Other design considerations
 - Additional requirements for using an alternative MAOP
 - Specifications for ordering
 - MTR's
 - Example problems
- 11:15 Plastic Pipe Design
- Design formula for plastic pipe
 - Plastic pipe limitations
 - Joining procedures
 - Example problems
- 12:00 Lunch
- 1:00 Meter Sizing & Selection
- Types of meters
 - Sizing of different meter types

2:00 Regulator & Relief Valve Sizing & Selection

- Basic operation
- Regulator sizing
- Relief valve sizing

3:00 Pipeline Pressure Testing

- Code requirements
 - Pipelines >30% SMYS
 - Pipeline <30% SMYS & >100 psig
 - Pipelines <100 psig
 - Services lines
 - Plastic pipelines
- Pressure test procedure calculations
 - Pipe, fittings, & pressure rated components
 - Elevation considerations (hydrostatic testing)
- Pressure test records

3:30 As-Built Records & MAOP Determination

- As-Built records
 - Pressure test records
 - Redline drawings
 - MTR's
 - NDT reports
 - Welder qualifications
- MAOP determination
 - Weakest element
 - Test pressure
 - Highest actual operating pressure