PIPPINES 101: BASIC PRINCIPLES OF ONSHORE PIPELINES

July 17-18, 2019
EUCI Conference Center
Denver, CO

“Pipelines 101 will increase your understanding and knowledge so quickly, you will want to schedule Pipelines 102 before you leave.”

Account Manager, Shawcor

EUCI is authorized by IACET to offer 1.5 CEUs for the course
OVERVIEW

This is an introductory course to pipelines. The history of pipelines, definitions and terminology, and how pipelines work will be included in the discussion on the first morning. The focus will then move to natural gas and crude oil pipelines from the planning, design, and construction to the operation, safety, and maintenance of the pipelines.

The intent of this course is to provide participants with the basics of pipelines and their functions, and to be able to apply the information learned when they return to their jobs. The instructors both have years of experience in pipelines and will share their knowledge and experience with the participants.

This course is intended for support staff who may have limited knowledge and/or experience of pipelines to better understand and effectively interface with their business development, engineering, marketing and operating colleagues. This course would also be of value to local government agencies that have an interest in pipelines being built or located in their areas of responsibility.

LEARNING OUTCOMES

- Compare the major differences in the types of pipelines
- Verbalize the vernacular related to pipeline terms of design, construction and operation
- Summarize how pipelines work
- Describe the route selection process
- Recognize the types of pipeline equipment
- Explain the types of pipeline facilities
- Review the requirements for proper maintenance activities
- Discuss safety practices that need to be put in place
- Describe SCADA
- Demonstrate familiarity with the major codes and standards as well as pipeline regulatory agencies

"Industry personal, government, come one come all and learn."
Realty Specialist, BLM

"After being in the industry for 4 years it was nice to have a course that put all the information together in one place. It was an informative general overview and was great for someone in my position."
Risk Analyst, Kinder Morgan

"The course provided a great foundation for professionals new to the pipeline industry."
Field Engineer, COP
AGENDA

WEDNESDAY, JULY 17, 2019

8:00 – 8:30 am       Registration and Continental Breakfast

8:30 am – 5:00 pm    Course Timing

12:00 – 1:00 pm      Group Luncheon

History of Pipelines

Pipeline Definitions and Distinguishing Differences
- Crude oil pipelines
- Natural gas pipelines
- Refined product pipelines
- Petrochemical and NGL pipelines
- Gathering lines
- Distribution lines

How Do Pipelines Work?
- Physics of fluid flow
- Friction losses
- Pipe lengths
- Elevation gain/losses
- Flow rates
- Hydraulic properties of hydrocarbon fluids

Basic Pipeline Design Requirements
- Design factors and class locations
- Pipeline sizing
- Road and water body crossings

Introduction to Pipeline Facility Engineering, Design, and Construction
- Route selection and route survey
  - Traditional and emerging methods
- Right-of-way/easement negotiations
- Pipeline construction (Pictorial Display)
- Other pre-construction actions

Pipeline Equipment and Facilities
- Pipeline equipment
  - Mainline valves
  - Pig launchers/receivers
  - Meter stations
  - Pump stations
  - Compressor stations
  - Separation and dehydration
  - Processing equipment

Introduction to SCADA, Communication, and Controls
- Basic vocabulary
- Overview of the control scheme

“Great course for someone who is just entering the pipeline industry.”
Civil Engineer II, Hatch Mott MacDonald

“Thanks for a great course. Very effective as a beginner’s overview.”
Director Energy Markets, EagleView Technologies
AGENDA

WEDNESDAY, JULY 17, 2019 (CONTINUED)

**Introduction to Pipeline Regulation**
- Environmental permitting
  - US Army Corps of Engineers
  - US Fish and Wildlife Service
  - Migratory Bird Treaty Act
  - National Historic Preservation Act – Section 106 compliance
  - Pipelines on Tribal lands
  - Federal land management agencies (BLM, USFS, BOR)
  - NEPA compliance
- State regulations

THURSDAY, JULY 18, 2019

8:00 – 8:30 am  Continental Breakfast
8:30 am – 5:00 pm  Course Timing
12:00 – 1:00 pm  Group Luncheon

**Operations and Maintenance Activities**
- Cathodic protection (natural gas and liquid)
- Odorization (natural gas)
- Leak survey (natural gas)
- Patrolling (natural gas and liquid)
- Continuing surveillance (natural gas)
- Line markers & signs (natural gas and liquids)
- Pump stations (liquid)
- Compressor stations (natural gas)
- Regulator stations (natural gas)
- Valve maintenance (natural gas and liquid)
- Fences and station security (natural gas and liquid)
- Pipeline pigging (natural gas and liquid)
- Breakout tanks

**Pipeline Integrity Management**
- Natural Gas Transmission Integrity Management
- Natural Gas Distribution Integrity Management
- Liquid Petroleum Pipeline Integrity Management

**Pipeline Construction, Maintenance and Repair**
- Welding procedures & welder qualifications
- Joining plastic pipe
- Mechanical joints
- Pipeline repair

“I am brand new to the industry and was very appreciative to see an organization as a learning resource so easily available!”
Marketing Manager, EagleView Technologies
AGENDA

THURSDAY, JULY 18, 2019 (CONTINUED)

Pipeline Control Room Management & Gathering Line Jurisdiction
- Control room management
- Control of pipelines
- Gathering line jurisdiction

Customer Service & Emergency Response
- Pressure testing pipelines
- Natural gas customer service
- Emergency response

Q & A, Course Assessment, and Adjournment

COURSE INSTRUCTORS

Thomas Lael
Formerly with ConocoPhillips Pipeline Company

Mr. Lael has been involved with the pipeline industry for over 45 years. He has worked for various State Pipeline Regulatory agencies (Illinois, Connecticut, and California) and the Federal government (Transportation Safety Institute, now known as Training and Qualification's (T&Q)). More recently Mr. Lael has worked for major petroleum pipeline operators as a code compliance officer, and Operator Qualifications Administrator. He has been responsible for determining the operator’s compliance with Federal and State pipeline safety regulations and determining the intent of current and proposed PHMSA regulations.

Mr. Lael spent ten years working with ConocoPhillips as the OQ administrator for the company OQ program. His employment with ConocoPhillips evolved from his initial employment with Tosco Corporation starting in 1999, merged into Phillips Pipeline Company in 2001 and finally into ConocoPhillips in 2002. He was responsible for the OQ qualifications for approximately 950 employees and over 1,500 contract individuals.

Mr. Lael has worked as an expert witness on legal cases concerning pipeline safety and accident/incident investigations. Mr. Lael has investigated numerous natural gas and petroleum pipeline explosion and fires.

Don McCoy
Formerly with PHMSA's Office of Pipeline Safety

Don is a native of Georgia and a graduate of Georgia Tech with a bachelor’s degree in aerospace engineering. After several years in the aerospace industry, Don changed careers to the natural gas industry and pipeline safety, including regulatory stints with the Georgia Public Service Commission and the U.S. Department of Transportation's Pipeline & Hazardous Materials Safety Administration – Office of Pipeline Safety. Don’s pipeline industry experience included 40+ years at Oklahoma-based companies Mustang Fuel Corporation, Enogex Inc., Chesapeake Energy, Chesapeake Midstream, and Access Midstream.
INSTRUCTIONAL METHODS

PowerPoint presentations and discussion will be used in this course.

REQUIREMENTS FOR SUCCESSFUL COMPLETION

Participants must sign in/out each day and be in attendance for the entirety of the course to be eligible for continuing education credit.

EVENT LOCATION

EUCI Conference Center
4601 DTC Blvd., B-100
Denver, CO 80237

NEARBY HOTELS

**Preferred Hotel**

Hyatt Place Denver Tech Center
8300 E. Crescent Parkway, Greenwood Village, CO 80111 (0.9 miles away)
Call Central Reservations at 1-888-492-8847 and ask for the corporate rate under the Group Code: EUCI

(Hot Breakfast included and Free Shuttle to and from EUCI)

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<th>Hotel Name</th>
<th>Address</th>
<th>Phone</th>
<th>Distance Away</th>
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<tr>
<td>Hyatt Regency Denver Tech Center</td>
<td>7800 E. Tufts Ave</td>
<td>303-779-1234</td>
<td>0.3 miles</td>
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<td>Hilton Garden Inn Denver Tech Center</td>
<td>7675 E. Union Ave</td>
<td>303-770-4200</td>
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<tr>
<td>Denver Marriott Tech Center</td>
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**EUCI is authorized by IACET to offer 1.5 CEUs for the course**

REGISTER 3, SEND THE 4TH FREE

Any organization wishing to send multiple attendees to this course may send 1 FREE for every 3 delegates registered. Please note that all registrations must be made at the same time to qualify.
REGISTRATION INFORMATION

Mail Directly To:
PMA Conference Management
POB 2303
Falls Church VA 22042
OR, scan and email to:
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PLEASE SELECT

PIPELINES 101 – BASIC PRINCIPLES OF ONSHORE PIPELINES COURSE: JULY 17-18, 2019: US $1495
EARLY BIRD on or before JUNE 28, 2019: US $1295

How did you hear about this event? (direct e-mail, colleague, speaker(s), etc.)

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Substitutions & Cancellations
Your registration may be transferred to a member of your organization up to 24 hours in advance of the event. Cancellations must be received on or before June 14, 2019 in order to be refunded and will be subject to a US $195.00 processing fee per registrant. No refunds will be made after this date. Cancellations received after this date will create a credit of the tuition (less processing fee) good toward any other EUCI event. This credit will be good for six months from the cancellation date. In the event of non-attendance, all registration fees will be forfeited. In case of course cancellation, EUCI’s liability is limited to refund of the event registration fee only. For more information regarding administrative policies, such as complaints and refunds, please contact our offices. EUCI reserves the right to alter this program without prior notice.

EUCI Offices
4601 DTC Blvd, B-100
Denver, CO

See nearby hotels on page 6

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