

# Pipeline Training Week

## Plan Now to Attend Pipeline Training Week

**April 14-18, 2014 – Denver, Colorado**

Double Tree by Hilton Denver

3203 Quebec Street, Denver, Colorado 80207

### Five Days... Ten Courses... Expert Instructors... CEUs / PDHs Awarded...

Enhance your technical skills and learn from recognized experts in onshore pipeline engineering at weeklong training program focused on updates to ASME codes, safety issues and industry technical challenges. ASME code courses are taught by ASME committee members responsible for writing ASME Codes and Standards. These courses are tailored specifically for engineers and project managers involved in the design, operation, maintenance and integrity assurance of piping systems. Come for a single course or stay for the week!

Join pipeline industry engineers and network with peers, colleagues, potential customers and senior leaders at ASME Pipeline Training Week in Denver!

 **For information and to register visit:  
[go.asme.org/pipelinetraining](http://go.asme.org/pipelinetraining)**

### Select from 10 courses spanning a wide range of critical pipeline specialty areas:

- B31.4 Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids
- B31.8 Gas Transmission and Distribution Piping Systems
- Bolted Joint Assembly Principles Per PCC-1-2013
- Composite Repair Solutions for Pipeline Anomalies
- Defect Assessment
- Inline Inspection
- Integrity Management
- Onshore Design and Construction
- Practical Welding Technology
- Pipeline Pressure Testing

### ASME Pipeline Training Week At-a-Glance

| Technical Track      | Monday<br>April 14   | Tuesday<br>April 15   | Wednesday<br>April 16  | Thursday<br>April 17   | Friday<br>April 18 |
|----------------------|--|---|--|--|--------------------|
| Bolting              | Bolted Joint Assembly Principles Per PCC-1-2013 (PD577)<br>David Lay<br>(2 Days) |   |  |  |                    |
| Piping and Pipelines | Pipeline Pressure Testing (IPTI203)<br>Larry C. Decker<br>(1 Day)                | Composite Repair Solutions for Pipeline Anomalies (IPTI202)<br>Chris Alexander<br>(1 Day) | B31.8 Gas Transmission and Distribution Piping Systems (PD370)<br>Mike Rosenfeld<br>(2.5 Days) |  |                    |
|                      | Integrity Management (IPTI210)<br>Tom Bubenik<br>(1 Day)                         | Defect Assessment (IPTI280)<br>Tom Bubenik<br>(2 Days)                                    |  | In-line Inspections for Pipelines (PD706)<br>Martin Phillips<br>(2 Days)   |                    |
|                      | Onshore Design and Construction (IPTI265)<br>Shashi Menon<br>(3 Days)            |   |  | ASME B31.4 Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids (PD391)<br>Carolyn Kolovich<br>(2 Days) |                    |
| Welding              |  |   | Practical Welding Technology (PD359)<br>Al Moore<br>(3 days)                                   |  |                    |

**COURSE SCHEDULE FOLLOWS BELOW**

## Pipeline Pressure Testing (IPTI203)

PDHs: 6.5

Number of Days: 1

Price: Member \$875 / List \$975

Recent PHMSA advisories and pending regulations will soon mandate pressure tests for operating gas and liquid pipelines that have not been previously subjected to pressured leak and strength tests. This course provides an overview of the planning and implementation processes necessary to efficiently plan, execute and document pipeline pressure tests that consistently satisfy code requirements as defined by CFR 49 Parts 192 and 195. Materials will include discussion of code terminology and requirements, planning, permitting, preparation of the test segment, testing, returning the line to service and documentation.

### You Will Learn to:

- Regulatory Drivers -- Code requirements and where they can be found
- Planning and permitting a pressure test
- Taking a line out of service, cleaning and isolating the line for testing
- Filling the line with the test medium (water, nitrogen, natural gas, air)
- Pressure testing the line including spike or strength as well as leak tests
- Determining if the test has been successful
- Returning the line to service, including cleaning and drying the line
- Documenting the test

### Who Should Attend

Engineers, project managers, technicians, operating supervisors and managers, construction supervisors, testing supervisors and especially any company or contract personnel charged with certifying that a test was conducted properly and was successful.

*Prerequisite knowledge includes a background in pipeline operations, engineering, construction or testing.*

### Instructor

**Larry C. Decker, PE**, is currently an executive consultant with RCP Inc. in Houston Texas. His work experience spans 38 years serving as an operations and design/construction engineer with experience at ARCO Pipeline Company, Alyeska Pipeline Services Company (Trans Alaska Pipeline), Enogex Gas and Paragon Engineering.

## Integrity Management (IPTI210)

PDHs: 6.5

Number of Days: 1

Price: Member \$875 / List \$975

This course provides a basic introduction to integrity management programs (IMPs) for pipelines. Federal regulations for gas and liquid pipelines are summarized, and the implications of recent regulatory modifications and proposed rules are addressed. Examples from several case studies are presented to help attendees understand strengths and weaknesses of typical IMPs. The course covers the impact of recent incidents and future trends.

### You Will Learn to:

- Recognize key sections of an IMP
- Explain what each section of an IMP is meant to do
- Describe why each section of an IMP is needed
- Identify key IMP activities and their impact on overall system performance

### Who Should Attend

Pipeline engineers with two to five years of practical experience. (This course has been designed for engineers who possess a basic understanding of design, construction and operations.)

### Instructor

**Tom Bubenik, PhD**, is senior advisor at Det Norske Veritas, Inc., and is an internationally recognized expert in pipeline integrity management. He develops and applies state-of-the-art technologies to pipeline integrity – from design and material selection through operations, maintenance, repair, testing and inspection.

## Bolted Joint Assembly Principles per PCC-1-2013 (PD577)

CEUs: 1.5 PDHs: 15

Number of Days: 2

Price: Member \$1,250 / List \$1,350

This course will train and test supervisory bolting personnel on the technological and practical problems of assembling bolted joints in large scale industrial applications. Participants enjoy interactive instruction, a student manual with resource materials (which includes a 1-year subscription to the most comprehensive on-line bolting library on the web), in-class demonstrations, and a half-day of practical application ending in a skills certification. *Participants will also receive the ASME PCC-1-2013 Guidelines for Pressure Boundary Bolted Flange Joint Assembly codebook.*

### You Will Learn to:

- Describe the principles of joint design and reliability
- Explain the “nuts and bolts” of nuts and bolts
- Explain the concept of “load” as a bolting goal
- Describe ways to accomplish “load” (torqueing and tensioning)
- Identify factors affecting proper “load” and how to compensate for problems
- Identify the proper selection and installation of gaskets
- Become familiar with bolting tools of all types
- Describe the advantages and disadvantages of various bolting methods and where to use them
- Identify assembly procedures (bolting patterns, incremental tightening, etc.)
- Become familiar with work planning and preparation (tools, hardware, bolting plan, safety checklists)

### Who Should Attend

Practicing design and manufacturing professionals involved in assembly of electro-mechanical hardware components and engineers and technicians in design and assembly operations. Engineers involved in the design, construction or maintenance of pressurized equipment utilizing flanged joints for the petroleum, refining, chemical, power and process industries.

### Instructor

**David E. Lay, BA, MBA**, is the director of training for Hytorc, the largest manufacturer of hydraulic bolting tools. He has been involved in the teaching of both the theoretical and practical aspects of heavy industrial bolting since 1992 and has been involved in corporate training for over 25 years. He is the author of several multimedia courses that teach standards at union apprentice programs in the millwright and pipefitter trades. Lay is an affiliate member of ASME and the ASME Post-Construction Standards Committee and the Bolted Flange Joint Subcommittee of ASME, which recently created the PCC-1-2010 “Guidelines for Pressure Vessel Boundary Bolted Flange Joint Assembly” document.

## Onshore Pipeline Design and Construction (IPTI265)

PDHs: 20

Number of Days: 3

Price: Member \$2,200 / List \$2,300

Attendees are provided with a comprehensive overview of the varied activities involved in designing and constructing an onshore pipeline infrastructure to transport hydrocarbons in a cost effective manner. The material is presented in a logical sequence of eight blocks covering facilities planning, hydraulic design, mechanical / geotechnical design, materials selection and construction. Practical examples are used throughout the lectures, which are supplemented by video presentations.

### You Will Learn to:

- Identify material selection and codes of design and construction used
- Evaluate pipeline hydraulic design, pipe size selection for strength and capacity employing the industry accepted methods such as the Colebrook and Hazen Williams equations
- Explain selection of pump station locations and the power requirements
- Describe how multi-product pipelines are designed and operated considering batching and DRA
- Describe how the existing pipeline capacity can be expanded by installing additional pump stations and/or using pipe loops
- Evaluate economic analysis of pipe expansion considering pipe loops and other methods

### Who Should Attend

Engineers, project managers, technicians and operators wishing to expand their knowledge of the disciplines of pipeline design, engineering and pipeline construction and economics of onshore pipelines. Attendees should be practicing design engineers, facility engineers and project managers, as well as practicing engineers working in onshore pipeline engineering. Also, new engineers entering the pipeline industry in areas such as economical design and operation of onshore pipeline systems.

*Prerequisite knowledge includes a background in Engineering and basic knowledge of how liquids and gases are transported through buried or underground onshore pipelines.*

### Instructor

**E. Shashi Menon, PhD, PE**, is currently vice president of SYSTEK Technologies, Inc., Lake Havasu City, AZ. He has been involved in engineering consulting for the Oil and Gas industry since 1974, and has published seven technical books since 2004 and co-authored several commercial software programs with colleagues in liquid and gas pipeline hydraulics and pump analysis since 1982. His experience covers oil and gas pipelines, pump stations and compressor stations having worked for ARCO and Mohave Pipeline.

## Composite Repair Solutions for Pipeline Anomalies (IPTI202)

PDHs: 6.5

Number of Days: 1

Price: Member \$875 / List \$975

This course provides guidance to use the ASME PCC-2 Standard to evaluate composite repair designs, as well as insights gained from past / ongoing studies that have evaluated composite repair technology. Attendees will learn about the history of the composite repair industry and how to repair pipeline anomalies properly, including corrosion, dents, mechanical damage, wrinkle bends and vintage girth welds using composite repair systems. Unique applications such as the reinforcement of branch connections, pipeline fittings and offshore installations are also covered throughout the course.

### You Will Learn to:

- Describe the applications of the ASME PCC-2 Standard, Repair of Pressure Equipment and Piping (Article 4.1 Nonmetallic Composite Repair Systems: High Risk Applications)
- Explain the history of composite repair technologies based on more than 15 years of comprehensive research programs.
- Evaluate the critical aspects of a composite repair system required to ensure long-term reinforcement of damaged pipelines.
- Identify applications in which composite materials are ideally-suited, as well situations where composite materials should not be used.
- Identify composite repair inspection technologies.
- Describe “forward thinking” concepts associated with the next generation of composite repair technologies, including unique applications, offshore installations and reinforcement of cracks.

### Who Should Attend

Engineers, project managers, technicians, operators and regulators who want to broaden their knowledge of using composite repair technologies, including new engineers entering the pipeline industry seeking to increase their understanding of how to repair damaged pipelines for long-term service.

**Prerequisite:** Basic knowledge in engineering and basic knowledge of pipeline design methods.

### Instructor

**Chris Alexander, PhD and PE**, is a principal at Stress Engineering Services, Inc. in Houston and heads the Midstream Pipeline Practice, with experience that includes assessing the effects of dents and mechanical damage on the structural integrity of onshore and offshore pipelines involving full-scale testing, as well as modeling using finite element analysis. He has authored more than 100 technical papers and is a member of the ASME PCC-2 sub-committee responsible for the design of composite repair systems.

## Defect Assessment (IPTI280)

PDHs: 13

Number of Days: 2

Price: Member \$1,535 / List \$1,645

This course provides a broad overview of analysis methods for defects in pipeline, including a summary of important material properties and a review of integrity assessment methods for pipeline defects. It also covers analysis methods for corrosion, including each of the methods cited in the most recent version of ASME B31G *Manual for Determining the Remaining Strength of Corroded Pipelines*. The instructor presents analysis methods for cracks, along with a basic introduction to fracture mechanics. Methods of measuring toughness associated with linearly elastic and elastic-plastic behavior are covered, as well as the use of failure assessment diagrams and the development of the log-secant equation, followed by J-integral based assessments. Finally, both propagating fractures and fatigue are covered.

### You Will Learn to:

- Identify which type of analysis tool is appropriate for common defect types
- Apply analysis tools (such as ASME B31G and RSTRENG) for metal loss due to corrosion
- Understand limitations on the use of ASME B31G and RSTRENG
- Apply analysis methods for mechanical damage and understand why they are less accurate than those for metal loss due to corrosion
- Explain the difference between flow stress and toughness related failures
- Understand when fracture-mechanics based analysis tools, such as the log-secant approach, must be used
- Describe how toughness affects the defect tolerance of a pipeline
- Explain how pressure cycling affects fatigue lives of crack-like defects

### Who Should Attend

Engineers interested in learning more about analyzing defects in transmission pipelines.

**Attendees should have at least 2-4 years of experience related to pipeline integrity management and/or defect assessment technologies.**

### Instructor

**Tom Bubenik, PhD**, is a senior advisor at Det Norske Veritas (U.S.A.), Inc. His broad-ranging experience and strong technical background in pipeline integrity – from design and material selection through operations, maintenance, repair, testing and inspection – includes a superior understanding of the regulatory requirements, integrity threats and the costs and consequences of managing pipeline integrity.

## B31.8 Gas Transmission and Distribution Piping Systems (PD370)

CEUs: 1.9 PDHs: 19

Number of Days: 2.5

Price: Member \$1,782 / List \$1,932

ASME B31.8 is the most widely used code for the design, operation, maintenance, and repair of natural gas distribution and transmission pipelines. This course explains the present-day piping code provisions, the principal intentions of the code, and how the code should be used. The emphasis is primarily on transmission pipelines. *Each participant will receive a copy of the ASME codebook, B31.8-2012 Gas Transmission and Distribution.*

### You Will Learn to:

- Explain the causes and modes of pipeline failure
- Describe the considerations for material specifications, pipe manufacturing, and pipe joining
- Estimate pipeline stresses from external loadings
- Explain how to evaluate of pipeline defects
- Identify pipeline repair techniques
- Identify the elements of pipeline integrity
- Explain how code requirements address these issues
- Explain the differences between B31.8 and US DOT gas pipeline regulations

### Who Should Attend

Engineers, code compliance personnel, operation and maintenance Personnel and regulatory personnel

### Instructor

**Michael J. Rosenfeld, PE**, is vice president and general manager at Kiefner/Applus-RTD. He has 25 years' experience in the oil and gas pipeline industry, including design, stress analysis, failure investigation, fitness for service assessment, maintenance and repair, welding and risk assessment. He has published over 30 technical articles and is active in pipeline standards activities, including ASME B31.8, B31 Mechanical Design Technical Committee, B31 Standards Committee and the ASME Board of Pressure Technology Codes and Standards.

## Practical Welding Technology (PD359)

CEUs: 2.3 PDHs: 23

Number of Days: 3

Price: Member \$1,625 / List \$1,725

This course is designed for people who need to expand their core competence on the subject of welding, and employs in-class exercises to reinforce class lectures on the subjects of welding and NDE symbols, carbon equivalence, A-numbers, strength of welds, joint details, welding procedures, selection of filler metals, and preheat. *Participants should be prepared for extended class time and bring a calculator and several pencils or a mechanical pencil to class. Participants receive a course notebook, a copy of Modern Welding Technology, 6th Edition, and a copy of AWS A3.0 Standard Welding Terms.*

### You Will Learn to:

- Explain and identify welding terms and definitions
- Explain how to specify various weld types and nondestructive testing using standard AWS welding symbols
- Explain basic welding metallurgy
- Describe Heat Treatments, residual stresses, and distortion control
- Explain welding processes and power supplies
- Differentiate AWS and ASME construction codes
- Identify Welding Procedure Specifications (WPS), including description, documentation, qualification and mechanical testing
- Explain common weld defects, causes and corrective actions
- Identify major design considerations when designing a weld
- Identify common NDT used to examine welds

### Who Should Attend

Managers, engineers, production and maintenance staff, inspectors, welders and others who work with welding

### Instructor

**Albert J. Moore Jr.**, is a principal of Marion Testing & Inspection which has provided welding and NDT consulting services and third party inspections since 1989. His qualifications include certifications as an AWS Senior Certified Welding Inspector with five endorsements. He is a NOCTI certified welding instructor and currently holds ASNT ACCP Professional NDT Level III certificates in four NDT test methods: RT, UT, MT and PT. As a welder with over 40 years under the welding helmet, Moore has been certified for the SMAW, GMAW, FCAW, GTAW, and SAW processes on aluminum, carbon steel, stainless steel, nickel alloy, and titanium.

## ASME B31.4 Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids (PD391)

CEUs: 1.5 PDHs:15

Number of Days: 2

Price: Member \$1,395 / List \$1,495

Basic safe pipelining starts with the ASME B31.4 Code, and this course provides the foundation for properly applying the code in the interest of public and employee safety. Its goal is to familiarize pipeline operating personnel, public safety personnel, and state and federal regulators with the important safety-related aspects of ASME B31.4. *Each participant is provided with a course notebook containing copies of the slides and viewgraphs and a copy of the ASME B31.4 Pipeline Transportation Systems for Liquids and Slurries codebook.*

### You Will Learn to:

- Describe the basic elements of pipeline design, construction and maintenance
- Explain how to apply principles of safe pipeline design and operation

### Who Should Attend

Pipeline designers, pipeline contractors, pipeline operators, public safety officials and government regulators

### Instructor

**Carolyn Kolovich** began her career at Kiefner & Associates after graduating from Ohio State University with a degree in mechanical engineering. During her time at Kiefner and Associates, she has been involved in many aspects of pipeline integrity including in-line inspection analyses, integrity management planning and defect assessment. She is a member of the ASME B31.4 Committee.

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## Inline Inspections for Pipelines (PD706)

CEUs: 1.5 PDHs: 15

Number of Days: 2

Price: Member \$1,250 / List \$1,350

From simple beginnings, the use of in-line inspection (ILI) has grown significantly. Today ILI is a go-to methodology for both regulators and industry to maintain pipeline integrity. This course provides an overview of how various technologies are used, specifically, to find different defect types. It reviews the defect types and ILI technologies that support the detection and sizing of the various defect types.

The course reviews ILI standards and other documentation to assist attendees in their role in the implementation of the ILI process. It also covers discrepancies between reported and actual defects and anomalies.

### You Will Learn to:

- Identify pipeline defect types that cause failure
- Explain why particular ILI technologies should be used or is applicable and effective to various defect types
- Identify ILI performance specifications
- Analyze industry standards and other documentation on ILI
- Explain how to generate confidence in the integrity of a pipeline using ILI

### Who Should Attend

Pipeline integrity engineers with limited exposure to in-line inspection and other integrity engineers/supervisors/managers interested in the relative strengths and weaknesses of using ILI technologies to determine and maintain pipeline integrity

### Instructor

**Martin Phillips, PhD, ACC**, joined Kiefner and Associates, Inc., in 2008. He strengthens the firm's expertise in the use of different ILI technologies for pipeline integrity management, particularly for crack detection and evaluation, risk assessment and risk management, integrity management planning and procedure development. He previously worked with PII (now GE PII Pipeline Solutions) in the UK, Paragon Engineering Services in Houston, and CC Technologies (a DNV Company) in Columbus, Ohio. Phillips earned his B.Sc. in physics & chemistry and his PhD in physics, from Aston University in Birmingham, UK and his ACCA, Diploma in accounting & finance, from the University of Northumbria, UK. He is a member of NACE, PIPE, PPSA, and the Institute of Physics (UK).